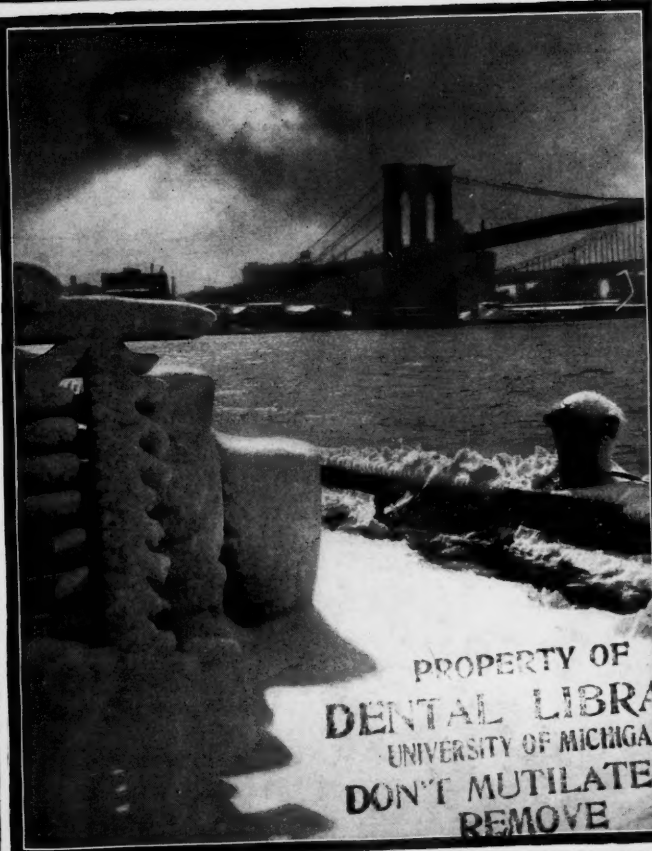


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JANUARY - 1926

VOL. XXII, No. 1

EDITED BY
GEORGE WOOD CLAPP, D.D.S.
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THE DENTAL DIGEST

GEORGE WOOD CLAPP, D.D.S., EDITOR

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OUR COVER THIS MONTH

Our COVER PICTURE is a typical January winter scene in this locality, with a distant view of the Brooklyn Bridge, which was the first span built over the East River between New York City and Brooklyn, and about which a few brief remarks may be interesting.

For many years this structure held the reputation of being the greatest piece of engineering work of its kind in the world. Its length is over 6,000 feet, its height above the water 136 feet, and the length of wire in the cables 14,361 miles. Two separate driveways for vehicles, a private way for pedestrians, and double tracks for trolley cars take care of the immense traffic over this great bridge. On its opening day, May 24, 1883, the total cost of building was reported to be \$25,094,577. Other bridges have been built since that date, but increased population in Greater New York has continued to make this particular "byway" a typical American panorama of crowded, jostling, hurrying humanity.

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THE DENTAL DIGEST

Vol. XXXII

JANUARY, 1926

No. 1

Some Fundamental Factors in the Construction of Efficient Dentures*

By Dayton Dunbar Campbell, D.D.S., Kansas City, Mo.

(This summary represents the effect of the paper on one in the audience.)

The speaker began with the statement that a new era in dental prosthetics, comparable to the one which began with Bonwell, had its beginning with the publication of Dr. Gysi's articles on *The Problems of Articulation* in *The Dental Cosmos* of 1910 and received a new impetus in 1913 when Dr. Gysi gave personal instruction to a group of dentists assembled from all over the United States.

Since that time no one has successfully controverted the principles which he enunciated as essential to the construction of efficient dentures, though many earnest and capable students have been diligently engaged with different phases of the problems. These efforts have resulted in a new interest in denture-making and a greatly improved technic.

One of the distinct gains has been that dentists have been taught how to secure the cooperation of patients and, without disclaiming full responsibility for proper design and construction of dentures, to shift to the patients the burden of mastering their use.

Dr. Campbell believes that patients should be immediately supplied with dentures or an occlusal rest. The advantages which result from having the patient immediately begin to wear dentures justify the construction and, in addition to this, the wounds are bandaged, the hemorrhage is checked, the jaws are rested, the patient is relieved from the unnatural empty feeling following the loss of the teeth and gets a certain assurance of satisfaction from the dentures which are yet to come.

So much has already been said about the subject of impression-taking that the speaker merely referred the audience to an article by Dr. C. J. Stansbery in *The Journal of the American Dental Association*, April, 1925, Page 438, and one by Dr. F. M. Hight in the same jour-

* Summary of a paper given before the First District Dental Society, New York, December 2, 1925. The complete paper, with illustrations, is to be published in *The Journal of Dental Research*.

nal, July, 1925, Page 778. The only other remarks about impression-taking were a mild warning to the novice as to the difficulties in taking all-compound impressions and the caution that, in securing a valve seal for the dentures, the blood and nerve supply should not be interfered with.

When he came to the portion of his paper dealing with the materials from which dentures are constructed, Dr. Campbell called attention to the shrinkage of vulcanite in vulcanizing and the difficulties caused by that characteristic. He then entered a strong plea for the platinum-base denture with porcelain gums on the grounds of adaptability, esthetics, cleanliness and the transmission of thermal changes. The porcelain gum may be made impervious to the fluids of the mouth by boiling the denture in stearin until the pores in the porcelain are filled with it. Stearin is insoluble at body temperature, and fluids will find no opportunity for entrance into the porcelain.

He made a strong plea for the gold-base denture as secondary only to the platinum and, partly in the paper and partly in closing the discussion, made a plea for the cast aluminum denture, which he has found very serviceable, very durable and very satisfactory.

The objection to the platinum-base and gold-base dentures sometimes raised is that they are heavy. The maxilla has no sense of weight in the way that the hand has and the patient is unconscious of the weight. It is, however, quite possible to make a denture for the mandible which is too heavy.

The speaker then defined central occlusion as "a rest contact relation of the mandible and the maxilla from which all movements of the mandible may be conveniently considered as taking their start." In this relation the condyles are in their habitually more retruded positions. He then stated that occlusion is the basis of all dental practice and that central occlusion should be the basis of all full-denture prosthesis. If the operator is satisfied with flat occlusal surfaces on artificial teeth, the exact registration of central occlusion may not be very important, but for the operator who desires to preserve the cusps of the artificial teeth it is disastrous to miss central occlusion by one millimeter.

He then said that the only method for exactly registering central occlusion with which he is familiar is by the use of the horseshoe plate and the incisor path marker. This method has been described so often that it should not be necessary to reproduce his description of it here.

Dr. F. M. Hight of Houston, Texas, has designed an extension for both the incisor path marker and the horseshoe plate. This extends six or seven centimeters anterior to the occlusal rim, gives an enlarged tracing and avoids interference by the patient.

When a patient does not trace a definite apex upon the horseshoe plate with the incisor path marker, Dr. Campbell removes the mandibular rim from the mouth and with the aid of a straightedge prolongs the right and left sides of the tracing recorded by the mandibular movements until these sides meet in an apex in front. He then returns the rim to the mouth and locates the incisor path marker on the curve directly posterior to the arbitrary apex and staples the rims together. He then measures the distance between the location of the incisor path marker and the arbitrary apex and places wax in the condyle slots of the articulator in such way as to produce a protrusion equal to the measurement. The mandibular case is now attached to the occlusal rim; this, in turn, is luted to the lower bow of the articulator. When the plaster is set, the staples are removed, the pieces of wax are removed from the condyle slots and the incisor path marker takes its position in the arbitrary apex of the Gothic arch. After other adjustments of the articulator have been made, the teeth are occluded, finished and ground to this jaw relationship. For a week or ten days the patient may complain of an uncomfortable feeling from the wearing of such dentures and then the trouble will be over.

After the casts are properly mounted, the incisor path marker, which has been held up out of contact with the horseshoe plate, is released and, by moving the upper bow of the articulator from central occlusion to left lateral occlusion and right lateral occlusion, the positions of the rotation centers are determined by moving the rotation points toward the median line or away from it as may be required to cause the incisor path marker to follow the limits of the Gothic arch pattern. Rotation point locations will often be asymmetrical on the two sides. These facts make the method advocated by Dr. Wadsworth for finding the rotation center very unsatisfactory to the speaker.

Bennett of London demonstrated the existence of a bodily lateral shift of the mandible. Needles has shown how a rotation center may be determined by means of check bites or by the tracing of two points in a similar manner to that used by Gysi for the single point. Christiansen was the first to offer a practical method of registering accurately the inclination of the condyle paths. His method, which is still used, is to place a roll of soft wax between the occlusion rims and cause the patient to protrude the jaw and close. The casts are luted to the articulator, the occlusion rims are sealed to the casts and the condyle slots are adjusted until the maxillary occlusion rim is seated in the flattened roll of wax.

With the adjustment of the articulator completed, the speaker returns the occlusion rims to the mouth for the purpose of setting up the six anterior teeth, since in the mouth the best esthetic results may be obtained.

Dr. Campbell has practically discontinued the use of all forms of teeth except the square type and, following the suggestion of Dr. Hight, he shapes the incisal third of the teeth of the square type to conform to the tapering and ovoid types. This gives wider necks than the tapering and ovoid types usually exhibit and the porcelain above the pins usually fills in the interdental spaces, which otherwise are usually filled by the pink vulcanite.

The occlusion rims are now returned to the articulator, and the maxillary bicusps and molars are waxed in such position that a line drawn through the long axis of each tooth will pass through the crest of the maxillary and mandibular ridges.

Examine the occlusal surfaces of teeth for minor defects resulting from baking and with small mounted stones deepen the sulci of the teeth. Do not grind off the cusps. With the aid of carbon paper, articulate each mandibular tooth to its opponent. When an intimate contact has been established, seal each mandibular tooth to its maxillary opponent with the aid of the smallest possible portion of hot wax. Then close the articulator, which will bring the teeth into proper relation with the mandibular ridge. Seal the teeth firmly to the mandibular occlusal model. With a blast of hot air from a chip blower, melt the film of wax holding the maxillary and mandibular teeth together.

Lateral movements should now be made to see if the lingual cusps touch to form the rectangular masticatory groove. This position of the lingual cusps on the working side is easily the greatest essential of all cuspal relations, as well as the most effective. If necessary, it should be secured at the expense of buccal cusp contact, because when the dentures are finally milled with carborundum powder the buccal cusps will come into contact. When the proper adjustments of the other teeth have been made, the second molars should be set.

The speaker emphasized the fact that it is very important to provide a means for returning the dentures, if made of vulcanite, to the same position on the articulator that the pattern originally occupied. When the setting of the teeth is completed, remove the mandibular case and the wax denture from the lower model bow, pour a bulk of plaster on the bow and smooth the surface in a line with the occlusal plane. Close the articulator in such way that the occlusal surfaces of the upper teeth seat in the mass of soft plaster.

This plaster impression of the occlusal surfaces of the teeth not only permits the dentures to be luted to the upper bow in the correct relation for milling, but serves as a check on the laboratory worker. If the case does not seat properly, there is good reason to believe that the technician is using bolt flasks or an enormous pressure to close the flasks.

Before testing the dentures in the mouth, test them for any major discrepancies by holding them in the hands. If they rock in the hands, it is obvious that they will rock in the mouth. Correct this trouble with carbon paper and small mounted stones.

Dry the occlusal surfaces of the mandibular teeth so that black carding wax will adhere, and cover these surfaces with a layer of that wax. Sprinkle the intaglio of both dentures with powdered gum tragacanth and insert the dentures. While the patient's jaws are closed, the black wax in the bicuspid region is cut away so that the operator may know whether the closing movement has been completed and is satisfactory.

Dentures are removed separately. The articulator is now provided with a rotary occlusal grinder.

By the movement of two wheels which are $\frac{1}{2}$ mm. off center, the dentures may be milled together in a minute rotary movement. With the aid of the plaster block which was put upon the lower bow of the articulator, the maxillary denture is mounted in its original position and, by means of the central occlusion check made of black wax, the mandibular denture is mounted in its correct relation to the maxillary denture. With plasticene a trough is formed around the teeth of the mandibular denture, with perpendicular sides high to submerge all the cusps and incisal edges, when the trough is filled with a mixture of carborundum and glycerine, grit No. 120. Care should be taken that the centering screws are in place to avoid being off center. The centering screws are released and the pulley is belted to a motor. The upper bow is raised slightly by the incisor guide when the motor is started. This is raised and lowered intermittently until the case is ground sufficiently in central occlusion.

Right and left lateral excursions are now made slowly, and finally the protrusive movement is made. This milling usually requires from ten to fifteen minutes. When the milling is finished, it affords a free range of about $\frac{1}{2}$ mm. when the teeth are in occlusion. This is similar to the conditions in a normal mouth and is a source of great comfort. It avoids the locked relation of cusps and provides an escape-way for crushed food at the end of the final masticatory stroke. It is also believed that it will be found important in avoiding trauma of the soft tissues.

DISCUSSION

By R. W. Trench, D.D.S., New York, N. Y.

Dr. Gysi gave us the method of establishing central occlusion by the use of the incisor point tracer twelve or thirteen years ago and I

have used it almost continuously since that time. About a year ago I laid it aside because other men were completing dentures that seemed to be satisfactory without it. For a year, except in a few cases, I tried other methods, among them one which Dr. Campbell has frequently described. I never enjoyed prosthesis less than during that year. I have returned to the use of the incisor path tracer and expect to continue it. I am more than pleased that Dr. Campbell has seen fit to employ the Gysi Gothic arch tracing and wish to emphasize the value it has in this field, as pointed out by Dr. Campbell.

In the matter of impressions, I believe it possible to take good impressions with plaster or compound. It is not the material that takes the impression, but the brains and the fingers of the operator. I believe most of the failures from compound impressions result from over-extension of the periphery. This over-extension is made easy by the fact that the compound may be too hard when the impression is taken. Unless plaster is worked at just the right consistency, an under-extension of the periphery may result. I believe such under-extension accounts for many failures from plaster impressions.

It is easily possible that the buccal and lingual margins of a compound impression may be so over-extended that they interfere with comfortable muscle action. Such over-extension is the main reason why dentists criticize compound as an impression material. I use it in 98% of my cases and can do better with it than with plaster.

There must also be a perfect contact of the impression material with the tissue which the denture is to cover. If this contact is not uniform, there will be trouble, whether the impression material used is plaster or compound.

The manner in which dentures are retained has been under discussion for many years. Dr. George Wilson maintained that dentures are retained by adhesion and cohesion. If adhesion is the main factor in retaining dentures, the destruction of a small area of the denture will not affect the retention. If you believe this to be true, take a No. 3 bur and make two or three holes through the palatal surface of the next denture you make and note the effect on the retention. Atmospheric pressure is the factor which retains the dentures against forced dislodgment. Its force is much greater than adhesion and cohesion.

Dr. Campbell likes to joke about the grimaces which the patient of the compound operator is compelled to make. It is satisfactory to have the patient laugh and smile in the normal manner, but it is a mistake, especially for the beginner, to subject the impression to extreme tests, for the impression may be well retained because it is slightly over-extended, and if soreness causes him later to trim the denture, the retention may not be so good after relieving the margins of the denture as it was before. When the technic throughout is correct, I like to make

these tests, and the stability of impressions and dentures under these tests has been a very gratifying experience.

In modern compound technic the border of the impression is not massaged to secure a fit, but merely to assist the compound to move downward from an elevated position to the proper lower level.

Dr. Campbell has called attention to the fact that rubber shrinks 10% during vulcanizing. It seems to me that if this is so, we should not be able to make vulcanite dentures. Dr. Gysi's experiments, to which Dr. Campbell has referred, were not made under conditions that exist in the laboratory, viz., under spring pressure.

It is undoubtedly true that bacterial growth occurs on vulcanite dentures. Dakin's solution may be used to overcome it, and there are one or two other solutions which may be used by causing the patient to immerse the dentures in the solution overnight and to rinse the mouth once or twice during the day. Under this form of treatment, with a medico-dental solution, I have seen an irritation that covered much of the mouth subside in thirty-six hours.

There is no argument that can be brought against a metal base for dentures. A well-fitted metal base is more satisfactory for most mouths than vulcanite, and fits as well or better. However, it would seem that bases of precious metals are preferable to aluminum.



Some Reasons Why Gold Foil Is a Wonderful Filling Material*

By J. Mark Prime, D.D.S., Omaha, Neb.

(This summary represents the effect of the paper on one in the audience.)

The speaker began by calling attention to the fact that gold foil is one of the oldest filling materials, that it has held first place in the offices of some of the best men the profession has ever produced and that it is still a favorite with a good many, though mostly of the old school. He recognizes that the cast gold inlay has so greatly displaced the foil filling that to many of the younger men the thought of using gold foil, even in certain cases, would be like going backward.

This paper should be considered in connection with a chair clinic which the speaker had previously given and which won the admiration of all who witnessed it. Because of the clinic the speaker purposely avoided, in the address, such subjects as preparation of cavities and the manipulation of foil, and confined himself to the discussion of the philosophy of the gold foil filling.

After speaking quite forcefully in behalf of tolerance for the ideas of other people, Dr. Prime said that if he were taking the position that gold foil should be used in all classes of cavities and under all circumstances, there might be just grounds for intolerance. The fact that he advocates its use only in chosen cavities and selected cases should remove all grounds for prejudice.

The speaker then devoted considerable attention to the physical characteristics, unknown in other elemental substances, which make gold so wonderfully suitable for dental purposes. Among these qualities is that of being capable of having its molecules united without the aid of heat quite as firmly as if they had been reduced to fluidity and allowed to cool. This makes it possible for the dentist to fill a cavity more completely and perfectly than if he had melted gold and poured it into the cavity and there had allowed it to solidify.

The technic of the gold filling has been modified principally by restricting it to a more limited field. It is no longer necessary to labor for hours in malleting it into compound cavities in inaccessible positions in the mouth because the cast gold inlay has been brought to a high state of perfection.

The speaker then questioned whether the cement which retains an inlay can remain indefinitely unaltered when inlays are expanded

* Summary of a paper read before the First District Dental Society, New York, December 3, 1925. The complete paper is to be published in *The Journal of Dental Research*.

as frequently as they must be by the taking of hot food and drinks and contracted so forcibly by cold food and drinks.

In contrast with the fact that the inlays are retained in cavities largely by the adhesive properties of the cement, he emphasized the fact that the gold foil filling is wedged between the elastic walls of the cavity. Dentine has 40% more elasticity than malleated pure gold, which insures a constant gripping of the gold by the dentine. When the gold foil filling is expanded by heat, the dentine yields to the expansion; and when the foil filling contracts, the dentine follows it back to position. He called attention also to the fact that the enamel rods are better supported at the cavo-surface angle by the gold wedged against them than they can be by cement, and that, under the stress of mastication, the constant and unchanging character of that support is very important to the integrity of the rods. He then asked a series of questions somewhat as follows:

Is it not wholly within the facts to say:

That the rods are better supported by the wedged gold directly against them than by an intervening film of fragile, friable, soluble cement?

That the cavo-surface bevel on occlusal surfaces may be soon worn away, exposing long rods, the only support of which is cement, and that this cement is soon dissipated by the churning, washing forces of mastication?

That this close contact is the best guarantee against tooth discoloration?

That the gold, fresh from the flame, the most sterile of all materials, wedged against cavity walls, kept clean and fresh by preparation under the rubber dam, meets the requirements of modern surgery?

That less cutting is required in preparing Class I cavities than is necessary for the cast gold inlay?

That many cavities may be filled with foil not only better but also in less time than is required for either porcelain or gold inlay?

That when the points of cusps wear down so that small spots of dentin are exposed, many years may be added to the life of the dentures and the premature closing of the bite be prevented by filling these tiny spots with gold foil?

That this method tends to prevent the development of conditions favoring traumatic occlusion?

That gold foil is the only material with which this can be successfully done?

That the gold foil technic is considered difficult by many only because they do not devote time to studying it? Any person who can make a good cast gold inlay can, if he will try equally hard, make a good gold foil filling.

That there is no technic for filling teeth which will return to the operator a reward for time and money spent equal to that of making the gold foil filling?

That foil technic develops a manual dexterity which tends to prepare the operator for other, and more difficult, technical procedures?

That it is the only material, when used in selected cavities, from which we can anticipate a service of forty or fifty years, yea, probably as long as the patient may live?

That, as a rule, it is better to tolerate the slight inharmony of well-made operations in proximal cavities of the front teeth and by so doing preserve their vitality and beauty than to temporize with temporary measures and suffer the much greater disfigurement by having a bridge at thirty and a plate at forty?

"Should we be content with a smaller service and a lesser success than crowned the efforts of those great men of the past who, by the use of gold foil, gave to their patients a most enduring service?"

Trigeminal Neuralgia and Its Treatment*

By K. Winfield Ney, M.D.

Dean and Professor of Neuro-Surgery, New York Polyclinic Medical School and Hospital, New York, N. Y.

Painful affections which are not typical paroxysmal trigeminal neuralgia must be differentiated from the true case. Most of the pain of migraine, which is commonly known as sick headache, may be located in the trigeminal area, but this pain is usually dull and throbbing, comes on gradually, increases in severity, reaches a climax and fades away after from twelve to forty-eight hours. The facial pain occurring in disease of the accessory sinuses, in sphenopalatine neuralgia and in other disorders of the gums and teeth may suggest trigeminal neuralgia, but there are usually pain characteristics which make a diagnosis possible.

In paroxysmal trigeminal neuralgia the pain is distinctly paroxysmal in character, strikes without warning, usually lasts only a few seconds and rarely more than a few minutes. It is described by patients as excruciating. Repetitions may occur at intervals of months and years or with but short intermissions over a period of months and years.

* Summary of a paper read before the First District Dental Society, New York, December 3, 1925. The full paper is to be published in *The Journal of Dental Research*.

The disease is chronic and progressive. The pain commonly involves the angle of the mouth, the upper or the lower lip or the ala of the nose. Occasionally a pain zone may be located on the tongue, in the buccal membrane or in a single tooth. Touching the skin in the area involved is often sufficient to start a paroxysm.

I have never seen a case benefited by the extraction of teeth or any operation upon the teeth or the sinuses or by any medication. The only hope of relief in difficult cases lies in the surgery of the trigeminal tract.

The division of the sensory portion of the posterior root of the Gasserian ganglion is the operation of choice. Mortality has been reduced to about one-half of one per cent. The technic has been so perfected that it is possible to preserve the motor root of the trigeminus and the functions of the masseter, temporal and pterygoid muscles on the affected side. In the majority of cases the operation is performed under local anesthesia in less than an hour and with the patient sitting up, with a minimum loss of blood and absence of shock. This affords complete and permanent relief from pain. This operation results in cutaneous anesthesia in the affected side, which, in the opinion of patients, is far preferable to the pain.

(EDITOR'S NOTE.—The remainder of the paper was interesting and instructive, but dealt with details of diagnosis and operation which are outside the field of dental service. This information and much more which is valuable to dentists and patients who have personal interest in this subject will be available when the whole paper is published.)



Our Amalgam Failures—Where Is the Fault, In the Alloy or In the Operator?*

By William E. Harper, D.D.S., Chicago, Ill.

Dr. Harper seems committed to the idea that most amalgam failures are due to the operator rather than to the alloy which he uses, and he stresses the point that the dentist makes the amalgam while the manufacturer makes the alloy, and that the amalgam is usually as good as the mixing and adaptation it has received—and no better!

Alloys made by reputable manufacturers may be considered high grade when containing 65% to 70% of silver. Alloys containing less than 65% of silver generally shrink too much and are commonly weak in their resistance to crushing stress and flow. The slow-setting alloys are so deficient in many essential qualities and are so wasteful of the operator's time that Dr. Harper does not feel that they are worthy of consideration.

During amalgamation (mixing in the mortar) shrinkage always occurs, and as setting takes place, there is expansion. If amalgamation be made sufficiently complete in the mortar, the amalgam being tightly packed, practically no amalgamation remains to take place in the finished filling to cause secondary shrinkage and expansion. Mixing in the mortar develops the reaction whereby the dental alloys, composed largely of silver and tin, combine with the mercury. The shrinkage in high-grade alloys occurs during this change and is followed by expansion, as setting predominates. Time and the temperature of the mouth develop a secondary reaction in the finished filling by diffusion if any unamalgamated particles and excess mercury remain. Thorough mixing with orderly, tight packing will reduce this secondary amalgamation to such an extent as to eliminate all disturbance to adaptation.

Rapid rubbing for two to three minutes, in a slightly dulled deep-glass mortar, with a pestle shaped to make contact with the curved bottom and the full depth of the sides of the mortar, are imperative for a complete hand-mix. Shallow mortars and poorly shaped pestles prohibit a complete mix and are emphatically condemned. The time element is important—two minutes for small masses or three minutes for large masses.

The plasticity of amalgam has been much misunderstood or misinterpreted. Dentists have failed to make the distinction between a workable and an adaptable plasticity. It is necessary to recognize this distinction in order to insure the necessary plasticity. An ordinary mix of quick-setting alloy remains workably plastic from five to eight

* Summary of a paper given before the First District Dental Society, New York, December 4, 1925. The complete paper is to be published in *The Journal of Dental Research*.

minutes, but it is adaptably plastic only from two to three minutes, and in the average large proximo-occlusal cavity two to three minutes is insufficient time to apply a thorough packing technic. To increase this time, quick-setting alloys should be mixed decidedly plastic, with much of the excess mercury retained until adaptation is secured, after which it may be readily and completely removed by forcible, orderly packing. Fillings may be built to perfect form and strength with a workable plasticity, but we must have adaptable plasticity to make a non-leaking filling.

Crepitus developing during the application of orderly packing indicates loss of adaptable plasticity, although the mass may remain easily workable and appear to be plastic.

Dr. Harper stressed the value of tamping. He believes that tamped amalgam settles or flows without break into all surrounding angles and against all cavity walls as a solid layer, free of air voids, and retaining its original plasticity as it flows to exact place. All that then remains is to compress it forcibly to remove the excess mercury and wedge the amalgam into pressure contact with the cavity walls, at which moment it will immediately harden and stay put.

Dr. Harper thinks that when amalgam is packed into place by force, instead of by tamping, it perceptibly stiffens with each thrust. In this manner it loses its adaptable plasticity before adaptation is secured and a leaky filling commonly results. Therefore, he reasons, an amalgam filling should be built and placed by tamping, forcible packing being resorted to only for the sole purpose of removing the unattached tin and the excess mercury and, finally, to wedge the amalgam into the tightest possible pressure contact with the cavity walls.

Regarding condensation, Dr. Harper was very emphatic in stating that the one purpose of condensation is to express the tin and excess mercury and to wedge the amalgam into pressure contact with the cavity walls and margins. In his opinion, very few operators use sufficient force to bring the amalgam in contact with the cavity walls or to remove the tin and excess mercury. The result is a weak, leaking filling. A force of from nine to sixteen pounds is recommended to insure a strong filling, and this is best applied by orderly stepping the plugger in one line from the center of the filling to the cavity walls. This method condenses the filling, and the excess mercury is forced outward toward the margin or periphery of the surface, where it can be removed as it accumulates.

After the cavity walls are covered and the cavity is practically filled, the mercury should be pressed out of the mass sufficiently to leave it still workable. Then the cavity should be filled to excess, all margins covered well and the final condensation done with a mallet.

When quick-setting alloy is used, carving the occlusal surface can

be undertaken at once. All cutting should be done toward the cavity margin. The time spent in carving will allow the amalgam to set sufficiently to permit the removal of the matrix. The filling is then trimmed and the amalgam burnished slightly with an instrument bent to reach all approximal surfaces. Then the occlusal surface is burnished, which completes the filling.

Dr. Harper has been collecting records of the pressure exerted in packing amalgam fillings and from his findings he believes that about 40% of operators pack with a force averaging under seven pounds, which, in his opinion, is insufficient to produce a strong well-condensed filling. His experiments have proved to his entire satisfaction that the least pressure that will produce efficient results is nine pounds, and from nine to sixteen pounds is generally required to remove the tin and excess mercury properly and to secure a thorough adaptation to the cavity wall.

Regarding the ingredients of amalgam, Dr. Harper stated that tin in amalgam serves three purposes: (1) it facilitates amalgamation; (2) it lubricates the amalgam so that it moves on itself without drag when packing; (3) it retards the setting sufficiently to provide time for thorough packing. After these purposes have been served, the more completely it can be removed, the stronger the filling will be. He believes that the nearer the finished filling comes to the formula Ag_3Hg_2 , or a similar compound of copper and mercury, the more stable the filling will be. Copper amalgam does not flow, probably because it contains no tin.

All cavities which enclose the pulpal wall closely should be lined to protect the pulp from packing pressure, because under strong pressure the pulp is aggravated by thermal changes that would have been tolerated in the absence of the irritation resulting from the pressure.

In summarizing his paper, Dr. Harper stated that the proportions of alloy and mercury need not be exact but that mercury should always be in perceptible excess during the mixing. The best guide to insure a complete mixing and adaptable plasticity is accurate timing. Fillings must be placed and built by tamping, not by pressure condensation. Following the tamping, the condensation is effected to remove the unattached tin and excess mercury and to wedge the amalgam into pressure contact with the cavity wall.

Weak packing force will always make a soft, unstable filling, however good the amalgam is. The strength and stability of the finished filling is in proportion to the amount of tin and excess mercury expressed in the packing. The less tin and mercury in the final filling, the stronger and more stable will it be. Incomplete mixing and insufficient plasticity will make a leaking filling that may be strong in resisting crushing stress and flow when packing with force. Weak

packing makes a soft filling that will develop every fault characteristic of bad amalgam work.

Correct amalgam procedure will insure uniform fillings. Such procedure includes proper cavity preparation; an excess of mercury in the mixing; thorough mixing for two to three minutes; a plastic mass free from crepitus during orderly packing for all except small and shallow cavities; thorough, orderly, forcible packing; stepping the cavity walls; proper proximal and occlusal form and finish; a firmly held matrix wedged at the gingival, wherever the use of one is necessary; the protection of the pulp from packing pressure in all deep cavities.

It has been the germicidal power of most good amalgams that has saved the teeth, not the operative skill and care of the dentist.

In closing, Dr. Harper stated that in his opinion amalgam is not only the most generally used but the most abused filling material, but that it represents more than 50% of the income of the average dentist and he pleads for a more intelligent use of this useful material.



Measurement and Application of Certain Physical Properties of Dental Amalgam*

By Wilmer Souder, Washington, D. C.

Physicist National Bureau of Standards

In opening his paper, Mr. Souder called attention to the fact that there is no definite standard for amalgam in dentistry today. When a dentist is asked what he prefers in dental amalgam, he often replies by mentioning a single quality, such as edge strength or a complete absence of electro-motive force, or he will name some dental amalgam as his ideal. There seems to be no unanimity of opinion in the dental profession as to the qualities which amalgam should possess. Some men have found a satisfactory material through a trial-and-error method, but this material may change in property, or even in ingredients, without the dentist's knowing it for some time. Mr. Souder contended that the only intelligent and satisfactory procedure for the true professional man was to select a material which had been tested in a scientific way, either by himself or by a laboratory that was uninterested in the sale of the material. He mentioned Dr. Black's development of laboratory instruments for testing alloys and, even ignoring the improvements which have been made in these instruments, he did not know of any dentist who could truthfully say that the alloy which he used had been tested in compliance with Dr. Black's standards by non-interested parties using the Black instrument and was bound to be of superior quality.

He asked how many dental schools had measured or had had students measure the physical properties of amalgam, and how many study clubs make their own tests on alloys. He asks if one could imagine a contractor building a bridge with materials carrying no specified quality or carrying false claims on properties, or a manufacturer of automobiles risking his reputation by putting out a machine produced from materials of unknown qualities.

Mr. Souder realizes that the success or failure of the average amalgam filling is not so important in a practical way, nor does it have such great influence on the safety of life and limb as the examples he cited, but, theoretically, the importance of standardization in the requirements for amalgam are just as important as a standardization of the requirements for steel. No matter how practical a man is, if we are to have advancement and development, the theoretical and practical must harmonize. That has been the experience of all successful re-

* Summary of a paper read before the First District Dental Society of New York, December 4, 1925.

search organizations in improving the standards of the products of commercial concerns.

Mr. Souder stated that it was not at all necessary to convert your office and practice into a research clinic, which was unfair to both operator and patient, because, with certain requirements established, these may be worked out in the laboratory in terms of actual service in much less time and usually with far more satisfactory results.

The Bureau of Standards at Washington has, with the help of a questionnaire, crystallized a list of requirements which cover the essentials for amalgam alloy. Instruments have been developed and methods devised for determining through definite tests whether or not any given alloy contains the essentials. He stated that the amalgam question was settled so far as the United States Government was concerned. All official purchases will be based on the requirements which assure a first-quality material. The requirements are fair and possible and several large manufacturers are in favor of the plan.

The United States Government specifications for dental amalgam are in brief: thorough, smooth amalgamation in three minutes; susceptible to carving for fifteen minutes; retains polish after twenty-four hours; chemical composition, silver 65% to 70%, copper 3% to 6%, tin 26% to 29%, zinc 0 to 2%; flow, after setting for three hours, not more than 5% in twenty-four hours at 3,550 pounds to the square inch; ultimate strength after five days, minimum 35,500 pounds to the square inch, two to five minutes for a test; dimensional change not over .04% shortening during twenty-four hours; at end of twenty-four hours must lengthen .01% to 1%. (For details of apparatus and manipulation, see Bureau of Standard Technologic Paper No. 157.)

Mr. Souder explained that all official purchases for the use of the United States Government should be tested in the governmental laboratory, but they were not equipped for testing for individuals, as such work would interfere with the prosecution of researches now in progress. He stated, however, that ratings of products could be secured at disinterested laboratories. He mentioned the Armour Institute at Chicago as being equipped to duplicate tests recommended by the Bureau. Also, if the demand is sufficient, the Massachusetts Institute of Technology has expressed a willingness to arrange for such tests. Without any desire to criticize either individuals or organizations Mr. Souder stated that although they had kept in close touch with the American Dental Association and had forwarded the Bureau's report to its officers and to many individuals, they had never been able to secure the active interest and enthusiastic support in the program which would have been given if the members of the Society had spent their own time and money on the program.

A very satisfactory alloy is one containing approximately 68%

silver, 27% tin, 5% copper (and sometimes 1% zinc at the expense of some one or more of the other three elements). This alloy, if properly melted, cooled and cut into particles of 1/100 to 1/200 inch dimensions and properly annealed, will give very excellent results. Then the question may be raised, "Why test such material?" Mr. Souder answered his question by stating that analyses made in the laboratory sometimes show wide variations from the formula or the presence of impurities. It is also known that alloys of identical composition show entirely different results. He cited a test which might be used to verify this. By heating some alloy particles to 200° or 250° Centigrade and holding at that temperature a few minutes, the resulting alloy will amalgamate with difficulty and will be of a sandy texture when amalgamated.

In accordance with his test, Mr. Souder mentioned that if excess mercury is placed at the bottom of a steel or glass test form, it will prevent the passage of air for two hours. This can be accomplished by light packing of the amalgam containing excess mercury. This seems to segregate the fluid mercury at high density to the bottom of the cavity and leave the dry amalgam on top. This statement of Mr. Souder's should be carefully considered before adopting any amalgam technic which calls for light tamping of the material containing a large quantity of excess mercury.

Regarding the compressional strength of human dentine, Mr. Souder said that in the light of present experiments he would give it a value of approximately 30,000 pounds per square inch, but he could not state this definitely because of uncertainties in his tests. He stated that his hearers might change that figure to 25,000 or 35,000 if they wished, but with the information in his possession he now should object to a much wider limit.

Another point about the amalgam tests to which he wished to call attention was the fact that the setting expansion of .07% to .09% followed by a contraction of .01% to .05% would indicate failure in the steel cavity that might lead to the rejection of a good alloy if one lost sight of the thin walls and elastic properties of a human tooth.

Mr. Souder explained how a shrinking amalgam may appear to be perfect under certain tests if excess mercury is not removed. As an example, he said that if a tube is filled with dry powder one may usually be able to force air past the powder particles even though the interspaces are exceedingly narrow. But when the tube and powder are put into a liquid which wets them, the liquid will quickly force itself in by capillary attraction and no further air will pass until enormous pressures are applied or until the interspaces are markedly enlarged.

A true test for constancy of dimension may be made as follows:

The test specimen may be packed into a rigid mould and removed

immediately on completion and never afterward subjected to a restraining force. This will permit it to do what it wants to do during the completion of crystallization. Also it shows what it actually does, except for the light restraint offered by the resistance of the tooth walls. The most satisfactory instrument for measuring this test is the interferometer, one of which was shown by Mr. Souder. Many of his tests showed a decided shrinkage, and Mr. Souder was unable to explain how it would be possible to secure satisfactory fillings from such material. All theory agrees that for the best amalgam the material must show slight expansion upon setting. He stated that the safety-plus attitude required the expanding material to lock itself into the cavity, because the contracting amalgam admits oral fluids and food particles. When the proper bacterium enters, the trouble starts and Mr. Souder said that he was not optimistic about the belief that the germs of decay would refuse such an invitation.

Mr. Souder feels that the sooner the dental profession demands tested alloys the sooner they can begin to check up on the accuracy of technic, and he stated that when he said "tested alloys" he meant those alloys tested or rated by an independent, properly equipped, non-interested laboratory. Mr. Souder went into considerably more detail than is indicated in this summary, and his paper deserves careful study as soon as it is published in full. He assured his hearers that the data he had given them were based on tests conducted as nearly as possible under actual conditions as the average dentist will need them. He used the same technics as those that are in approved use in dental practice. The test specimens were packed in cavities similar in size to those usually encountered in practice and he felt that the data he had presented were safe for application to the conditions his hearers would meet.

Mr. Souder, of course, called attention to a few unfortunate methods of conducting tests which fail to set forth the true conditions as they exist. In conclusion, he stated that his plea for standardization of dental amalgam was presented for the following reasons:

1. Its standardization will assure the dental profession a first-quality material.
2. With the proper technic dentists could rest assured that their work would be as satisfactory as it is possible to make it.
3. Manufacturers who conform to the requirements are protected, because of the care they take in supplying a superior product.
4. The public will receive the best possible service for the fee paid.



The Ultra-Violet Ray in Pyorrhea and Other Ills*

By William A. Spring, D.D.S., New York, N. Y.

So far as I am able to report personally, the most valuable use of the ultra-violet ray is in the treatment of pyorrhea and its results. It is today an acknowledged fact that pyorrhea can be cured, but it requires no argument to convince you that no case of pyorrhea can be cured without removing all of the deposits.

Dr. Younger, who practiced so many years in Paris and cured so many stubborn cases, used to tell us that every minute particle of tartar should be removed, and that if one left as much as might be framed on the point of a needle one would fail of the result.

The removal of the tartar is in my estimation the most important thing, and, in my experience through many years of practice, that having been accomplished, nature will usually establish health. There are, however, many cases which fail to respond. A loose tooth may remain so, or pus may continue to form. It is in these cases that I find the ultra-violet ray useful. Failure to respond to ordinary treatment is presumably due to the inability of the body to overcome the infection present. Something is then needed to help nature.

I have had a recent case in practice. A lady postponed coming for her prophylactic treatment nearly a year and a half. Pus oozed from a deep pocket on the surface of a lateral incisor root. Repeated scaling failed to stop the pus during a treatment of three weeks. After one 20-minute application of the ultra-violet ray, it was found at her next visit that the pus had ceased and the gum appeared healthy. Pressure tests then and later failed to show the presence of pus. Two molars in the same mouth were in a similar condition, with the added trouble of being loose. The flow of pus was readily stopped, and after several treatments the looseness was greatly improved. I have had many cases of loose teeth which have become firm after several treatments of ultra-violet rays.

The ultra-violet ray is of the same nature as light, but it is invisible. In this it resembles the x-ray. All three travel at the same speed but differ in wave length. If we look at the photograph of a spectrum, we find the near ultra-violet just beyond the violet rays, the far next beyond, and the extreme ultra-violet farthest away. The more extreme the rays, the shorter the wave length. Since all these rays travel at the same speed, it follows that the shorter the rays the greater the frequency, in direct ratio. To put it in another way—the frequency is

* From a clinic given before the First District Dental Society, New York, December, 1925.

inversely proportional to the wave length. The measure commonly used for these various wave lengths is the Angström unit (\AA) or one ten-millionth of a millimeter. The shortest wave lengths known are those of the hard Gamma rays of radium. They vary from .02 to .07 Angström units. X-rays vary from 1 to 10 \AA . Visible light ranges approximately from 4000 \AA to 9000 \AA .

The longest visible waves appear red to us, while the shortest ones appear violet. The wave lengths less than 4000 \AA , which lie just beyond the visible range, are called the ultra-violet. They are often spoken of as "actinic rays." The near ultra-violet are from 3000 to 4000; the far ultra-violet are from 2000 to 3000; the extreme ultra-violet are from 360 \AA , the shortest yet measured, to about 2000 \AA .

They cannot be seen and must be recognized by their chemical effects. They can be separated from the waves of other lengths by passing them through a 60° quartz prism, which sorts out all rays according to their wave lengths. Their presence may then be proved by their effect on photographic paper. If the ray is allowed to pass through a fluoresceine solution in water, its course is shown by a green color in the solution. Similarly, a 15% solution of quinine bisulphite turns a beautiful blue.

Unlike visible light, ultra-violet rays do not pass through glass. It is necessary, therefore, either to use quartz in making the apparatus so that the ultra-violet rays are not filtered out or to have nothing intervening between the source of light and the target.

Rays of short wave lengths have been proved to be destructive to bacteria outside the body. Thus some workers have obtained sterilization of cultures at a distance of two feet in 30 seconds. Because of their destructive power to bacterial life, rays having wave lengths of 2900 \AA or less are sometimes said to be in the Abiotic Zone.

There are, in general, two ways of producing ultra-violet rays. One of these is by passing an electric current through mercury vapor. Another is by means of a carbon arc. It is with the carbon arc lamp that I have had experience.

While the lamp does produce heat, the ultra-violet ray itself is not hot. The heat produced by the lamp is scarcely perceptible six inches from the lamp. It is possible to produce burns with the ultra violet rays themselves. However, the half-hour treatment with this lamp does not produce them.

The rays from the mercury vapor lamp do not penetrate vascular tissue, and it is therefore necessary to expel blood by pressure if one wishes deep effect. The makers of the carbon lamp claim that the rays it produces will penetrate blood and that pressure is therefore unnecessary if one uses this lamp.

I do not know that anyone can definitely demonstrate the action

of the ray in treating disease, but it is believed that the sun cures in Switzerland and elsewhere are due largely to these rays, and it is definitely known that the rays are germicidal. In Sampson's interesting book *Physiotherapy Technic* many pages are devoted to this subject, and he offers as one explanation that phagocytosis is greatly increased.

This lamp is exceedingly simple and easy to use and has no expensive burner to get out of order. Two medicated carbons are placed at right angles to each other, and by means of a thumbscrew they can be brought into contact or apart. Two other thumbscrews serve to assist exact adjustment.

After each treatment the points should be wiped and readjusted so that they meet accurately. After the current is turned on, the points are brought together and immediately separated about $\frac{1}{4}$ inch. This establishes the arc. As the carbons burn away, they must be readjusted.

One should never look at the light with unprotected eyes, and even the little red window at the side is not sufficient protection. Rather powerful colored glasses are necessary. Half-hour treatments never cause discomfort. Mouthpieces may be attached to the lamp and can be introduced between the lips to guide the direction of the rays.

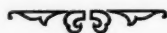
In using the carbon lamp on mucous membranes I have noted a blanching of the tissues occurring during the treatment. Associated with this, there occurs usually a rapid reduction of the pain and tenderness of an acute inflammation. I have had an interesting indication of this just this week. A patient, after suffering several days, applied for treatment. The diagnosis disclosed a recent death of the pulp. A vent was made, but the usual relief was lacking, due to the extreme tenderness and recent pain. An application of a half hour of the ultra-violet ray was made, when the patient reported the relief and comfort as remarkable and added that she could now almost bite on the tooth.

I have had some success in the treatment of cold in the head. A patient whose nasal mucous membranes were swollen and dripping reported immediate increase in comfort after a single application. This effect is probably due to the constriction of blood vessels which causes the blanching.

Good results have been reported in the treatment of certain skin diseases, though in this I have had no experience.

Recently we are getting wonderful reports of successful treatment of dental apical infection and fistulas.

8 West 40th Street.



Developing of Dental Films

By Joel M. Zametkin, D.D.S., Brooklyn, N. Y.

(Second Article)

The reader will recall that in the preceding article we set the exposed film aside for future development, development of both the film and the subject matter. The merest novice is acquainted with the principles of photography. Reduced to the simplest of statements, a dark box is required, one proof against the seeping in of light, with a lens at one end with a shutter in front and the light-sensitive film at the other. With the merest flick of the finger the shutter is opened and the reflected light from the object to be photographed is concentrated through the lens, leaving a latent impression on the sensitized film. The image, unseen, is upside down. In radiography, on the contrary, the action is radically different. Here we do not use reflected light, but the direct source of light is intercepted by the various densities of the object interposed between the film and the source of light. No lens is used, no dark box, no shutter—the whole process is performed, so to say, in the open. The laws of physics and chemistry involved in both these processes are identical.

The procedures by means of which the invisible image on the impressed film is brought out are so much alike in photography and radiography that, as a suggestion to the reader, should confusion arise, let him think in terms of his own camera. Although plates may be used in radiography, primarily for extra-oral work, films are far more commonly used by the dentist, and most of them intra-orally. It is necessary to get a clear conception of the relationship between the yellow-coated celluloid film and the exquisitely brought-out image of the object detailed in its most minute and intricate features, as well as the sequence of the steps and their logical arrangement with their justifiable interdependence.

Let the reader open a film packet and note that the film has a shiny side and a dull side. This dull side holds great potentialities which the genii of physics and chemistry will unveil at our proper bidding and bring out the object sought. The dull side is an extremely thin layer of gelatine impregnated with one of the silver salts, usually the bromide of silver or the iodide of silver, and spread very evenly upon a celluloid strip of thickness, shape and size to suit the purpose to which it will be put. It is true that light has the ability to change these silver salts chemically. It is immaterial what this light be, whether daylight, gas light, electric light, or, one may say jocularly, x-ray light. Dip this exposed film in certain chemical solutions and the latent image can easily be brought out to such an extent, in fact,

that obliteration may finally take place. Indeed, the image might be brought out to a nicety and yet disappear were it not within the realm of chemistry to interfere with the continued action of light, whatever it may be.

The first of these two solutions is the developer, the second, the fixer. The developer is a reducing agent in solution form, containing four types of chemicals, one the developer, one the accelerator, one the preservative, and the last the restrainer. The reducing agent may be one of a number of chemicals, the most common being hydro-chinon and metol. The accelerator, which is carbonate of soda; the preservative, sulphite of soda; the restrainer, bromide of potassium—each one of these chemicals has a specific purpose in the developing solution, and its absence has its direct deleterious effect on the results.

Upon exposing the film, a chemical effect has been brought about upon the silver bromide. Upon placing the film in the developer, the hydro-chinon, the reducer, changes the affected portions of the silver bromide to very finely divided metallic silver; in fact, we have a metal image, dark, because finely divided silver so freshly prepared is naturally deep gray to black. Were it not for the accelerator, the carbonate of soda, this process would be a slow one. Carbonate of soda, being an alkali, has the ability to open up the pores of the gelatine, thus permitting the reducing agent the more readily to change the light-affected silver bromide to metallic silver. Hydro-chinon, the reducing agent, is somewhat unstable, in so far as it has an affinity for the oxygen in the air, which greatly interferes with its reducing ability. To prevent this shortcoming, sulphite of soda is added to the solution as a preservative, for it also has a great affinity for the oxygen in the air and can absorb great quantities, thereby protecting the hydro-chinon.

The combination of a reducer and an alkali might produce such rapid development of the film that details would be lost and the film clouded. To prevent this, a small portion of potassium bromide is usually found in the solution, and this acts as a restrainer. In placing the film behind the object, the x-rays, like white light, leave their impression on the sensitive film in proportion to the density or the densities of the object through which the x-rays pass. It therefore follows that there must be a great variation in the degrees of intensity of effects that have been impressed on the film. These gradations are brought out by the developer. Other factors of a purely physical nature enter into the problem, as temperature, age of solution, time of exposure, distance of source of light from film and methods of developing.

There are three technics of developing, the tray method, the tank method and the factorial method. The novice will find the tank method the most satisfactory on the whole. This is dependent upon a standard

set by the manufacturers of the developer and further controlled by the temperature of the solution. The tank method, as its name implies, is a method in which a tanklike receptacle is employed, which contains three compartments, one for developing, one for fixing, and the third for washing. The films are hung from clips over the side of the tank into the developer for five minutes, the temperature of the solution being 65 degrees. The tray method, somewhat more complicated, depends upon placing the film in the solution practically without regard to the temperature or the time, but depending entirely upon the eye for determining the degree at which reduction has taken place and concluding just when the film is sufficiently developed.

The third method, the factorial method, the least used of the three, depends upon the fact that there is a direct relationship between the total time of development and the time elapsed from when the image first appears. That is, if the image first appears in 10 seconds and the factor of the developer as set by the manufacturer is 30, the total time for complete development would be 10×30 or 300 seconds, that is, five minutes, which is the time allotted in the tank method. Determining when the image first appears is in reality an echo of the tray method, so it is readily seen that these three methods really have no sharp line of demarcation and are actually somewhat interrelated. With this truth in view, the writer concludes that the best method of development is really a combination of the three, taking other factors into consideration. It is feasible to standardize the technic for casting an inlay or for making a full denture or a bridge, but in radiography such a possibility is very remote.

The solution may be of long standing but very little worked, or it may be freshly prepared but much worked. Then, again, the solution may be warm, cool, or of varying temperatures from day to day or from hour to hour. Then, also, it is possible that the technician uses a regular film or an extra fast or a super-speed, at greater or lower amperage, for more or less time, at longer or shorter film-target distance, upon denser or thinner tissues, so how can one depend upon a standardized procedure with these possibilities? A far better practice is to use the tanks for convenience of the receptacle only and to develop one film of a single packet as an experimental test, training the eye and the sense of perception exclusively by the sight method, that is, the tray method, trays discarded, tanks used. The factorial method has no place in this scheme except that if the operator is of a curious turn of mind he may indulge in a sportive way to determine the factorial index of his solution. It is extremely important that the time consumed in developing be noted.

It now becomes a simple matter to develop the remainder of the films according to the suggestions as brought out by the one test film.

For example, the solution might be a month old and about one-third worked, the temperature 67°, the milliamperage 7, the time 4 seconds, the distance 18 inches and the tissues normal to the average mandible. Under these conditions the test film took three minutes, and we are now in a position to judge that the rest of the films should take perhaps a half-minute longer or shorter time for development. In this way we eliminate the shortcomings of the various methods and incorporate each one's virtue into this combined technic.

16 Court Street.

(To be continued)

Testimonial Dinner to Dr. Simon Shapiro

What promises to be the most memorable social function in the history of the Kings County Dental Society will be a testimonial dinner given in honor of its distinguished member, Dr. Simon Shapiro.

Dr. Shapiro, aside from being one of the organizers of this Society and a past-president, has been most active from its inception in 1912. He has been in a large measure responsible for the many advances the Society has made, its membership having grown from a small group to almost a thousand. The number of papers and clinics he has presented to the profession have inspired many men to practise a higher standard of dentistry. His sincerity, loyalty and high ideals command the love and respect that is shown him by all who know him.

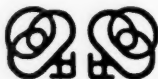
The dinner, followed by entertainment and dance, will take place on Thursday, January 21, 1926, at the Hotel Bossert, Brooklyn, N. Y.

Many prominent men in the dental profession have signified their intention of being present and a very enjoyable evening is assured.

The committee extends a cordial invitation to the members of the profession and their ladies.

Reservations should be made with Dr. J. L. Felsenfeld, 133 South 9th Street, Brooklyn, N. Y.

DR. SAMUEL BASS,
Chairman Dinner Committee.



What the Days Bring to Us As We Advance In Dental Practice

By Frank W. Sage, D.D.S., Cincinnati, Ohio

After a year or two in practice, the young dentist becomes impressed with the fact that a degree of uncertainty as to the outcome of many operations upon natural teeth must be reckoned with. Here comes a patient with a pivot incisor to be reset. "I'm in a hurry, doctor; must catch that noon train. Won't take long, will it?"

The dentist examines conditions. Root not split; crown with baked-in pin needs only to have cement scraped off. "I can do this in twenty minutes, I think," he replies. And in less than that time he has drilled cement from root, reset crown, dismissed patient. "The crown has been on three years, you say?" he inquires. "Ought to last another ten, I should say. I have ground away the inner surface where the lower tooth acted as a lever to pry it out. Don't think that will happen again very soon."

The next day patient returns, says not a word; ignores dentist's greeting, points tragically to swollen, inflamed gum above tooth. "See what you have done," he complains, not in words, yet quite as expressively in glowering grimaces. Young dentist, really conscientious, cowers, not in conscious guilt, yet assuming the burden of blame which he could not if he would fix upon the patient or anyone else. He is not conscious of having been negligent in any particular, yet asks himself, "Whose fault, if not mine, is it?"

Occasionally even the most earnest student may fail to be impressed by something repeatedly brought to his attention in the college clinic. What the clinician had said was, "Remember always that infection may lurk in the depths of a root from which a pivot tooth has fallen." Briefly he went on to explain that oxygen from the air may kindle the fire of inflammation slumbering in that root so that the dentist, forcing in the cement in resetting, may drive the germs deeper in, and possibly through the apex, causing great mischief.

Not to lecture at length, he it said that in such cases the old root-filling should be thoroughly removed and the root treated as before the first setting of the crown for possible infection. It is the only safe way. (The apex probably may not have been thoroughly filled in the first place.) In case of the dentist's venturing to drill a trifle deeper in order to carry the crown out of the way of an interfering occluding tooth, instead of grinding the crown inside to relieve interference, the danger is increased. Beware! Furthermore, fail not thoroughly to disinfect the crown and pin by boiling.

Some day we may have a sort of dictionary or thesaurus of expres-

sions to be fired back promptly at the fellow who comes in with fire in his eye to accuse you without troubling to inquire whether you are to blame or not. In such instances as that cited above it will be found to disarm the complainant totally, perhaps cause him to wilt and offer apology, if you say at once, "This has happened not on account of what I have done, but in *spite* of it!" (Commit that to memory, you young Dr. Timidity, afraid you may offend somebody!) Look the man straight in the eye. It may not always be exactly true, but neither may his complaint be so, as for that. Fire back at him, "Why did you wait until the last moment? Expect me to hurry, hurry, and get the best results in spite of all, do you?"

You know by this time that you were to blame, but why admit it to the victim? You are expecting to improve, as you go on in practice, so why make an admission to your own detriment? It may be you teach in a Sunday School, that you daily repeat to yourself, "Do unto others as you would have others do unto you." Very well. But that does not mean you should put yourself in the way of inviting the other fellow, less conscientious, to do unto you as you would not do unto him. Keep your mouth shut. Mix plenty of common sense with your religious sentiment. You don't tell the children of your Sunday School class all the mean things you used to do in your boyhood, do you?

Human nature as exhibited in a dental office offers curious phases, often contradictory, as viewed from different angles. Here comes a lady with her daughter; wants you to mend several fillings for daughter. She tells you: "Dr. Fairlygood filled Susie's teeth two years ago, and now I can see decay starting again at the edge of those fillings Oh no, I won't have her go back to him! All I want you to do is to cut out those decayed places and patch the fillings. You must be careful not to disturb the fillings. I cannot be paying another big dental bill. Susie's teeth have cost us a small fortune already. Her father is quite worked up about it."

Now, hold on, young man! Don't plunge right in without looking for possible snags. Where are your eyes? Let's take a look.

Theodore Roosevelt gave an admonition in a single word which has gone all over the country. You see it framed, hanging on walls behind counters in banks, stores, in schoolrooms—this single word—*think*. This woman is asking you to build up a solid repair on a rotten foundation. Then what if foundation later on fails, carrying with it your repair? Will she go back to Dr. Fairlygood, complaining of *your* poor work? She will blame all onto you, poor foundation and all! What she intended in the first place, when she came to you, was to have you make good not only the bad her eyes had discovered, but all else of Dr. F's bad as well. Whether she realized it or not, that thought, that expectation was in the back of her brain. Your repairs

were to answer all the purpose of making perfect all Dr. F's slipshod work without actually putting her to the expense of having it all done over!

Whenever such a case presents, the thing to do is to back up against the wall and shoo the lady away. Wholly new fillings or nothing! My own experience has been that it is hazardous to attempt repairing any dentist's filling, no matter how excellent his reputation as an operator. You never can tell. At all events—care—ful!

It is well, whether the operator deems results doubtful or not, to warn some patients that you undertake the particular operation at his or her risk. Of course you will know when this is necessary.

Dentists are at a disadvantage in that they have no such rules and regulations for self-protection as are found in all departments of business. The watch-repairer will usually charge you for a broken spring replacement, although he may have put in the new spring only the day before. You find the second one broken within a day or two, and again he refuses all responsibility. You buy tubes for your radio, and if one fails the first night, you must pay for a new one. This attitude of irresponsibility grows more and more daily in nearly all departments of business. The consumer must pay. Business men do not complain of other business men's unfairness, illiberality, in thus repudiating responsibility; they simply follow suit and make similar inflexible regulations for self-protection in their own business. Not all business men approve, but—oh the saving of bother! Business is one thing, Sunday School another—the more's the pity!

Look at Susie's mother from another angle. A compliment indeed to you, her esteeming you a better dentist than Dr. F. However, be not too easily flattered. If you should fail of the miraculous result expected, the making good of any and all defects in his work, whether open to sight or not, all the blame is to be visited on your head. While Dr. F, should he be listening-in over his 'phone, will sit shaking his sides with merriment, hearing her blast you! No explanations, no excuses will avail. The woman who is accessible to reason in the face of failure, when she had looked for success and money-saving, must be patiently sought in remote corners of the earth.

Here we discover another pitfall into which the unwary dentist, young or old, may fall. A molar presents having a large oxyphosphate filling somewhat worn. Another dentist made that filling seven years ago, the lady declares. Much worn; she wants gold. The dentist complies; all seems well for months. Finally, after the dentist has forgotten, lady again presents with tooth aching. Oh, such a night of it has she had! (Supply further details.)

Great risk in filling over another dentist's cement filling. Consider thoughtfully what that cement means—possibly near pulp exposure.

Pulps slowly die, giving little or only slight sign, even after long years of quietude. Dentist No. 2 chanced upon *the* unfortunate time for his gold filling. Just so happened. Would have died in any case, but—lady thinks you did it!

However, any alternative treatment of this case might be hard to name. "Remove all the cement, for purpose of inspection," you suggest. Again, oxygen kindling smouldering fire. Dangerous!

Dentist may dodge—leave the filling to wear out entirely. What, and then have the tooth ache? Possibly so. However, easier to get at pulp and relieve suffering, when this has come about. Who can say? If people will not heed our warnings to come often for examinations, thereby avoiding uncertainties in the first place, what may they not expect?

Dentists face many perplexities. If it were not for the many pleasant features of daily practice overbalancing the evil, our work would be unendurable. It is pleasant to have a patient you have not seen for years return, and as he seats himself in your chair, remark, as an actor once did to me, "Since you filled and restored several teeth for me five years ago, I have felt that I was carrying part of you around with me." A most hearty, sincere tribute, that! Occasionally the man who thinks you have not charged him enough thrusts a larger bill into your hand and runs away laughing. A lady for whom you inserted a full denture at once declared with heat that she never in the world could wear the horrid things and flounced out of your office thoroughly indignant, all but abusing you. Three years later she reappears, takes you aside, whispers an apology for having been so hasty. Teeth all that anybody could expect; couldn't live without them! Yes, it does so happen.

(Moral: Don't be too sure you have failed because the patient so declares; don't be too sure you have succeeded, because you see nothing wrong. *Think!*)

Another snare that may entangle you—a lady who has never seemed to regard of first importance prompt payment of your bills calls your attention to several partly worn cement fillings on the proximo-lingual surfaces of incisors. Tells you to repair only the fillings most needing attention. (*Tells* you!) Accordingly, you repair three of six, and in due time send bill. She replies from a distant city—not with a check but with a note: "Sorry to report that two of the three repairs you made have come out," etc. Two months later she returns to you, frowning disapproval. You find repairs all right; nothing whatever wrong with the other fillings. Distrust in lady's eye. Wouldn't be ladylike to call you a—but never mind! Weeks later husband calls, says little, asks for receipted bill in a desolate tone as if suspecting you may send him another a few years later, but for the precaution.

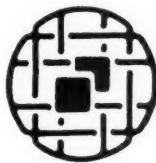
Says "Goodby" in a tone meaning, "We are just about done with you."

Strange that a woman of this description is rather likely to suspect a dentist of slighting his work under conditions described. Wants to save at his expense, perchance; then, it would seem, distrusts him, subconsciously arguing that he must feel vexed at himself for too easily yielding, hence takes little pains with the operations.

Another instance is one where you should insist on new, thorough operations from the ground up—no patchwork. What the inquirer looks for is thoroughness miraculously extending through all false upper structure to the foundations, with little attending expense. Oh, of course we all of us have many reasonable patrons who trust us implicitly and defer to our opinions in every service sought. This whole matter resolves itself finally to a demand on every dentist for firmness, self-respect, self-assertion. Patients as a rule find in such men a faculty of quickly apprehending the situation, of unhesitating rebuke of attempted imposition or encroachment, so that they are likely to *think* twice before making unreasonable requests in advance of operations or lightly blaming the dentist even for suspected failure.

22 The Parkside.

(To be continued)



Concerning Gum-Section Dentures

By O. H. Simpson, D.D.S., Dodge City, Kan.

A brother dentist across the way called my attention to the article in a recent issue of *THE DENTAL DIGEST* written by Dr. Davis, giving his method of making clear joints in gum sections by the use of pink rubber, also saying that it was impossible to make them with red rubber. Now since I have had ten more years in dentistry than his article credits the doctor with, I will presume to tell him how it can be done with red rubber. In fact, I know of no method I have used in my practice that is more simple—or results more positive. If I have had a dark joint in my practice in thirty years, I don't recall it; and I will venture the assertion that my co-workers in this locality will bear me out in this extravagant statement.

Grind joints slightly V-shaped; let base of V be slightly wider than the thickness of a playing card. In waxing up, be careful not to get wax in joint, as the thinnest film will insure a dark joint. If any should accidentally get in, remove block and regrind surface. Leave aperture in wax rim above the joint about the diameter of the lead in a pencil, also on lingual surface. This will permit the plaster to fill joint from above and below, when case is flaked. When flask is open and wax removed, this tongue of plaster must be burnished or corked into the joint with amalgam instruments. If any joints fail to fill, take small pieces of plaster about the size of wheat grains, wet them, and burnish in joint. If soft plaster is used, wait until it sets before trying to force it into joint. Use flat side of knife blade to force plaster into the top of joint. Rubber is more apt to enter joint from above than from the back. Trim surplus plaster off flush with back of section, and if the V is too large, a portion of plaster can be scraped out with a sharp instrument.

The secret of the whole process is in keeping wax out and in corking the crevice with plaster after it has set. Be careful in packing; don't be afraid to have ample escape for the excess rubber—without these you are sure to fail.

One of the objections to gum sections is that food accumulates back of them. This can be obviated entirely if wax is not permitted to overlap the anterior surface of section. This also cracks them. Large rolls of vulcanite always shrink and leave the section loose, permitting secretions to carry food back of them to decompose. Finish wax minutely, so it will not be necessary to file or scrape the plate to any extent in the finishing process. I realize that gum teeth are being used less every day by the younger men in the profession, but, notwithstanding this, they yet have a very important place in dental restora-

tions that cannot be filled with anything except continuous gum, and that is not within reach of the majority of our patients.

Gum sections have faults, but none so grievous as the "pink rubber front." Under no circumstances is a broad expanse of pink rubber justified. To use pink rubber and plain teeth on that class of patients who expose the natural gum in laughing is the most unpardonable thing a dentist can do for a patient. Anterior gold crowns are a work of art in comparison, and the practitioner who doesn't use gum sections in this class of cases is overlooking a bet and will lose his patients to the man who does.

To the beginner I would suggest sending case with lip line marked and shade indicated to dealer and have blocks selected that will conform to the arch and gum high enough to hide rubber. Try it—and your patients and their friends will sing your praises!

On the lower jaw plain teeth should always be used; at least, I have never had a case in which they could not be.



CORRECTION

In Dr. Sidney Sorrin's article in the December, 1925, issue, the twelfth line from the bottom of page 840 should read as follows: "of the toothbrush, floss silk and toothpick."

Togo's "Discursions"

Mr. Editor of Dental Magazine intended to be Digestible.

Hon. Sir:

Joyous season of Jan 1 occasioning Good Resolutions & income tax reports are now present in usual quantity & therefore should be examined and classified in order to be harmoniously related to age fast becoming classified & catalogued in all departments.

Eminent scientists including myself have made startling discovery that man are peculiar insect. Instead of being Generous, Patriotic, Thankful, & sufficiently full of Good Intention during entire 365 days of year he experiences violent attack of each emotion once per annum on date set aside for that purpose & then enjoys extensive relapse during remainder of Calendar year.

Reason for this is concealed in fact that emotions just enumerated are beautiful things to have but difficult to live up to continuously.

If Patriotism of July 4 intensity should exist permanently in land of supposedly free, presently all Politicians would be forced to work for a living thereby causing intense suffering to said large portion of population entirely unaccustomed to doing so. If generosity of Christmas dimensions persisted thruout each annual year most terrible financial panic of modern times would result because of fact that inflated expense schedule would become continuous until final detonation marking end of spending debauch occurred.

If Good Resolutions of Jan 1 variety should suddenly become effective for remaining 51 6/7 weeks of year tremendous financial reverses experienced by bootleggers, tobacco stores, other effete purveyors of U. S. Civilization in spiritual & gaseous forms would cause big diamonds, fur collars, fast cars & sawed off shot guns to become drug on market.

Facts as noted are perceived by all but carefully considered by only small minority, some of which Mr. Editor I hope may be found among your readers who may perhaps peruse following wisdom without experiencing mental breakdown caused by overwork of unused machinery.

Patriotism of excellent quality may be denoted by fire crackers & other noisy etc. on date of July 4 but practical results are obtained in greater quantities by men who go willingly to serve on juries & who do not suffer from loss of memory on dates of Primaries, Judicial Elections & other dates denoting responsibility of Mr. Average Citizen for U. S. and local Govt.

Christmas spirit should perhaps not be reduced on date of Dec 25 but increased amounts if induced to flourish during remainder of year would produce much good and no harm.

Jan 1 resolutions should be approached with great caution in the knowledge that real gains in character are achieved usually in very minute quantities & then as results of continuous & often almost heart breaking effort or sacrifice.

Considerable observation of dentists is responsible for following 1926 Model of resolutions for D.D.S. adoption respectfully submitted.

1. During coming year I will attempt to use Truth more freely & in larger quantities in all talks with Patients than ever before. (Above rule Mr Editor if tenaciously adhered to will cause increase of both self respect & cash income.)

2. I will attempt to make complete detour around all methods of work which will not result in highest good to patient all things considered.

3. Conscientious effort will be made during entire year to keep from excusing bad Credit judgment by covering up its results under label reading CHARITY. (Charity work however will be undertaken on strict basis of Humanitarian service but not diluted with insidious form of bad business judgment just mentioned.)

4. Oil stocks, circulars of Cooperative nut farms, all 10% schemes & other tempting sucker bait received via U. S. mail will be at once turned over to tender mercies of waste paper collector.

(Persons of either sex offering similar noxious substances for sale by personal visit will be treated immediately to excellent view of office as seen from outside of building.)

5. I would expect Hon Banker to follow my judgment regarding safe tooth treatment. I will therefore ask him seriously regarding investment problems. He has knowledge, I enjoy only a soft spot.

6. Steady effort will be indulged in to learn from highly developed abilities of others how to improve abilities already in my own possession but heretofore employed mostly in low gear or on part time basis only.

7. That progress of entire profession depends on progress of individuals is noticeable fact of great importance, therefore meetings of Dental Societies & current dental literature will be enjoyed by me whenever possible.

8. Citizenship duties will be attended to as demanded by modern complex social organization because neglect of such responsibilities only adds to prevalence of Crime wave, petting parties, hooch hounds & other annoyances now affecting us on every side.

Above list might be considerably extended Mr Editor but any Dentist in U. S. A. following only 50% of above prescription will notice considerable improvement.

Hoping you are the same

Togo.

A Three-Day Postgraduate School

TO BE CONDUCTED BY THE DENTAL SOCIETY OF THE STATE OF
NEW YORK

The Fifty-eighth Annual Meeting of the Dental Society of the State of New York will be held at the Hotel Astor, in the City of New York, May 19, 20, 21 and 22, 1926, at which important papers will be presented by prominent essayists, together with a specially prepared program of clinics selected because of their educational value and in order that the subjects taught in the Educational Courses may be further elucidated by demonstrations from different men.

EDUCATIONAL COURSES

Prior to the regular meeting an intensive Three-Day Postgraduate School will be conducted under the name of "Educational Courses," Monday, Tuesday and Wednesday, May 17, 18 and 19, 1926, day and night sessions. These courses have been selected to meet a demand indicated by a ballot among over 3000 members of the Society. The following courses have been projected: (1) Full Denture Technic; (2) Partial Denture Technic; (3) Root Canal Technic, including Radiography; (4) Extractions, with special reference to difficult cases, imbedded roots, etc.; (5) Anesthesia, local and by inhalation; (6) Removable Bridgework, various types; (7) Bridgework, fixed and partially fixed; (8) Cast Gold Inlays, direct and indirect technic; (9) Orthodontia, for the general practitioner; (10) Periodontia, for the general practitioner; (11) Porcelain Jacket Crown Construction; (12) Physical Diagnosis; (13) Office Management.

Each course will have at least three teachers, and candidates may enroll for one or for all three teachers, thus rendering it possible for men to make their studies purely elective.

All members of the American Dental Association will be eligible to take these Educational Courses. A booklet, fully outlining the details of the various courses of study, with the names of the teachers and the special parts of the subject that each will teach, will be ready for distribution early in January. All who are interested and who wish to receive this booklet will please send their names and addresses to Dr. Edward Kennedy, 347 Fifth Avenue, New York City, Chairman Committee on Educational Courses.

There will be reduced railroad rates in New York, States west of New York and New England States. Tickets will be good, going from May 15th to 20th, inclusive. When purchasing ticket, procure railroad certificate and also deposit certificate at registration booth.

Promise of a New Order

On the evening of December 8, 1925, at the Vanderbilt Hotel, New York City, a meeting was held which promises to be of great importance to the future of dental education in general, but especially to the dental department of New York University.

Dr. Holmes C. Jackson, the new Dean of New York University College of Dentistry, realizing something of the problem he has to face in reorganizing the school, now that the New York College of Dentistry has become a part of New York University, and being desirous of securing as many interested viewpoints as possible, expressed his desire to meet a group of the alumni, and this meeting was the result. While in no sense was it a meeting of the alumni organization, there was present a fairly representative number of those alumni who have retained their interest in the College and could be easily reached for this meeting.

Dr. Frederick Lester Stanton, President of the Alumni Association of the old New York College of Dentistry, presided and stated the purposes of the meeting, which were to secure from those present suggestions for the improvement of the teaching methods, the curriculum and the administration of the school generally. It will not be possible to publish the remarks, as practically every one present offered suggestions of worth-while nature, many of them extremely practical and a few that might have been considered revolutionary a few years ago.

Dr. Jackson, who spoke last, expressed his hearty appreciation of the suggestions offered and the evidence of cooperation and interest in the welfare of New York University College of Dentistry, and then briefly outlined some of the conditions which he had found on taking over the office of Dean, the reforms which had already been put into practice and some of the difficulties which he naturally encountered in his new position.

Dr. Jackson showed that he had a very thorough grasp of the requirements and had already mapped out a program which would increase the efficiency of the methods of dental teaching and place New York University College of Dentistry in the lead as a dental school of the highest character.

From the very nature of things, it will require a little time to bring about the completion of Dr. Jackson's program, but with the whole-hearted support of the alumni, and with the cooperation of the faculty, of both of which Dr. Jackson is assured, there seems to be no doubt of the final success of the program.

"When a Feller Needs a Friend"

By Donley M. Steele, D.D.S., Cayuga, N. Y.

If a dentist ever needs a friend, it is when he moves into a state where he is not licensed. Even if he feels able to pay for and pass the required dental examination he is invariably up against a lot of red tape and much delay.

Very much that we read in dental publications regarding "Reciprocity," "Exchange of Recognition," and "National Board of Dental Examiners" is quite amusing to one who has successfully squirmed through four state dental examinations.

The fact is that the dentists of the United States do not *want* such freedom. It may, or may not be, right and just and constitutional but I was compelled to pay and work, worry and wait for the four state licenses I now hold and I am willing that others should do likewise!

I will estimate that ninety-nine out of every hundred dentists today are either not at all interested in the subject or frankly do not favor it. The great majority of us are located and fairly well satisfied. We do not want to move and we do not want dentists from everywhere moving in on us. Now isn't that true?

Whenever the majority of dentists do favor such National Freedom, we will get it—and not until then. The general public will never show any interest in the question. Such freedom will have to be secured through the concerted action of the State and National Societies. These societies at present do not favor it. The American Dental Association does not even recognize one of its own members when he moves into a state where he is not licensed and they will very promptly "fire" him from membership in the Association. (See Chap. 1, Sec. 4, of the Administrative By-Laws.)

It was my misfortune to have almost two years delay before I could get by the red tape and secure license to practise in New York state, and although I held licenses in three other good states and membership in the Texas State Society and the American Dental Association, I was not recognized by the New York Society, consequently the American Dental Association refused to continue me as a member. When that Association refuses to recognize a dentist outside of his home state, there is little or no hope for national reciprocity.

Ask the dentists you know, and if you can get the truth you will find that the vast majority do not want any such freedom. The few who favor it generally do so for personal reasons—they want to move, and that is the fellow who needs a friend.

Chicago Dental Society Mid-Winter Clinic

HOTEL DRAKE—JANUARY 27, 28, 29, 1926

SYNOPSIS OF PROGRAM

Section I. *Operative Dentistry.*

Essayists: Russell W. Bunting, Ann Arbor; Paul A. Barker, Denver; W. A. Chamberlain, St. Louis; R. H. Volland, Iowa City; Harold O. Hansen, Chicago; Arthur D. Black, Chicago.

Discussers: Percy R. Howe, Boston; G. J. Dennis, Chicago; F. B. Rhobotham, Chicago; C. Carroll Smith, Peoria; Edgar D. Coolidge, Chicago; Lucien H. Arnold, Chicago; V. T. Nylander, Chicago; R. E. Blackwell, Chicago; D. N. Lewis, Lake Forest; John V. Conzett, Dubuque; Robert J. Cruise, Chicago.

Section II. *Full Denture Prosthesis.*

Essayists: F. F. Molt, Chicago; John M. Besser, Chicago; J. W. Crawford, Milwaukee; Rudolph Hanau, Buffalo; Rupert E. Hall, Chicago; E. Byron Kelly, Chicago; John B. LaDue, Chicago.

Discussers: E. L. Dunn, Chicago; Robert R. Gillis, Hammond; J. B. Olech, Chicago; Geo. P. Brenner, Milwaukee; C. S. Bigelow, Evanston; W. A. Giffen, Detroit; R. O. Schlosser, Chicago; S. D. Green, Chicago; E. C. Pendleton, Chicago.

Section III. *Partial Denture Prosthesis.*

Essayists: Hart J. Goslee, Chicago; Stanley J. Tylman, Chicago; Walter F. Chappelle, Buffalo; J. J. Moffitt, Harrisburg; Robt. E. MacBoyle, Chicago; F. E. Roach, Chicago.

Discussers: J. C. Mortonson, Milwaukee; W. D. N. Moore, Chicago; G. W. Dittmar, Chicago; P. A. Pyper, Pontiac; Albert P. Grunn, Chicago; L. C. Burgard, Louisville; F. VanMinden, Chicago; Raymond M. Bondy, Chicago; Clyde J. Miller, Chicago; E. I. Payne, Chicago; Geo. E. Meyer, Chicago; Arthur J. Skupa, Chicago; Geo. Kolar, Chicago; L. J. Weinstein, New York.

Section IV. *Oral Surgery, Anesthesia and Diagnosis.*

Essayists: John F. Christiansen, Chicago; Jos. C. Beck, Chicago; Vilray P. Blair, St. Louis; Robt. H. Buck, Chicago; J. A. Heidbrink, Minneapolis; A. H. Barnes, Rochester; Joseph E. Schaeffer, St. Louis; J. E. Nyman, Chicago; Ralph H. Fouser, Chicago; Arnott A. Moore, Buffalo; Roy S. Hopkinson, Milwaukee; Geo. E. Meyer, Chicago;

Lewis A. Platts, Chicago; James A. Blue, Birmingham; Louis Schultz, Sr., Chicago; W. H. G. Logan, Chicago; Herbert E. Potts, Chicago; F. B. Moorehead, Chicago; B. A. Morris, Chicago; E. J. Ryan, Chicago; T. I. Lerche, Chicago; Stanley W. Clark, Chicago.

Discussers: Jos. P. Wahl, New Orleans; Mary Lyons, Chicago; Frances Haynes, Chicago; C. S. Suddarth, Chicago; Chas. W. Freeman, Chicago; F. B. Moorehead, Chicago; Herbert E. Potts, Chicago; Louis Schultz, Sr., Chicago; W. H. G. Logan, Chicago; F. W. Merrifield, Chicago; Vernon M. Leech, Chicago; Edw. Hatton, Chicago; F. F. Molt, Chicago; G. R. Lundquist, Chicago; O. H. Helmer, Chicago; R. W. Lee, Chicago; R. I. Lewis, Chicago; A. E. DeRiemer, Chicago; Howard C. Miller, Chicago; I. G. Jirka, Chicago; W. S. Heermans, Chicago; Jos. G. Wiedder, Chicago; M. G. Fox, Chicago; E. C. Hume, Chicago.

Section V. *Orthodontia.*

Essayists: Max E. Ernst, St. Paul; Frank M. Casto, Cleveland; M. J. Buckley, Chicago; Thos. L. Grisamore, Chicago.

Discussers: A. Florence Lilley, Chicago; Mary Newell, Chicago; W. A. Murray, Evanston; J. C. McGuire, Evanston; Asa J. LaGrow, Oak Park; H. W. McClain, Chicago; F. B. Noyes, Chicago; L. S. Lourie, Chicago.

Section VI. *Periodontia.*

Essayists: L. Pierce Anthony, Philadelphia; Thos. B. Hartzell, Minneapolis; Percy R. Howe, Boston; E. A. Schmuck, Chicago; C. H. Schott, Cincinnati; H. W. MacMillan, Cincinnati.

Discussers: Thos. B. Hartzell, Minneapolis; Chas. A. Elliot, Chicago; F. B. Noyes, Chicago; G. R. Lundquist, Chicago; F. W. Merrifield, Chicago.

Section VII. *Mouth Hygiene and Preventive Dentistry.*

Essayists: Isaac D. Rawlings, Springfield; G. H. Wandel, Iowa City; Grace Rogers Spalding, Birmingham; Wm. F. Whalen, Peoria; M. H. Killip, Chicago; Louis Ottoty, Chicago; Arthur D. Black, Chicago; Herman N. Bundesen, Chicago; John M. Dodson, Chicago; Edward L. Pettibone, Cleveland; Evelyn C. Schmidt, Chicago.

Section VIII. *Public Health and Educational Exhibits.*

Food and Nutrition Exhibit; General Health Examinations; Dental and Radiographic Examinations with Diagnosis.

Section IX. *Roentgenology.*

Essayists: Howard R. Raper, Albuquerque; C. Edmund Kells, New Orleans; C. O. Simpson, St. Louis; Ira C. Brownlie, Denver.

Discussers: Arnott A. Moore, Buffalo; Frank J. Bernard, Chicago; Hollis E. Potter, Chicago; A. C. Tenney, Chicago; C. F. B. Stowell, Chicago; M. J. Hubeney, Chicago; F. F. Molt, Chicago.

Section X. *Pathology, Materia Medica and Therapeutics.*

Essayists: Jos. L. Miller, Chicago; C. N. Johnson, Chicago; Russell L. Haden, Kansas City; P. G. Puterbaugh, Chicago; E. D. Coolidge, Chicago; W. G. Skillen, Chicago.

Discussers: Arthur D. Black, Chicago; U. G. Rickert, Ann Arbor; Edw. Hatton, Chicago.

CLINICS

National Clinic Day:

One hundred clinicians from outside Chicago will give clinics on all phases of dental technique and operation.

Chicago Clinic Day:

More than one hundred Chicago clinicians will present demonstrations similar to the national clinicians.

GENERAL SESSIONS

Two general sessions will be held, one on Wednesday evening and the other Thursday noon.

A man of national prominence, outside the field of dentistry, will address the Wednesday evening gathering, while the Thursday session will be in the nature of a good-fellowship luncheon.

BANQUET

The annual banquet, to be held on Thursday evening, January 28, 1926, will be in honor of Sheppard W. Foster, President of the American Dental Association. A short speaking program, with several entertainment features, will provide a delightful time for those who attend. Dancing will follow the dinner.

RAILROAD RATES

A rate of one and one-half fares for the round trip has been granted by the railroads. A one-way ticket to Chicago should be purchased and a certificate obtained from the selling agent. This certificate, when validated at the Drake by the special agent of the carriers, entitles the purchaser to one-half fare for the return trip.

MEMBERS OF THE AMERICAN DENTAL ASSOCIATION AND OF
FOREIGN DENTAL SOCIETIES WELCOME

A most cordial invitation is extended to members of the American

Dental Association and of foreign dental societies to attend this annual event. The Chicago Dental Society bids you welcome!

HUGO G. FISHER, *Secretary*,
25 East Washington Street.



Meeting of Buffalo Dental Society of Dental Hygienists

The December meeting of the Buffalo Society of Dental Hygienists was held at the office of Dr. J. G. Roberts of Buffalo. Those who were not present missed a very fine lecture and personal demonstration by Dr. Roberts. His subject was *The Correct Usage of the Toothbrush*. The demonstration was particularly interesting because all had not seen the new rolling movement that is being so largely advocated now. This procedure takes care of the teeth, brushing all surfaces, and massages the gums and stimulates all the surrounding tissues of the mouth as well.

It has been found that having a speaker at each meeting is very beneficial and it also brings out more members. The doctors have been very kind about giving their time and so far very enjoyable lectures have been given by the following men:

Dr. Mimmack: *The Medicaments Used in Oral Prophylaxis*

Dr. Pritchard: *The Value of a Dental Hygienist to an Oral Surgeon*

Dr. Roberts: *The Correct Usage of the Toothbrush*.

Reported by EUNICE J. CLARK

American Stomatological Association

At the meeting of the American Stomatological Association held at New York City on November 16, 1925, the following officers were elected for the year 1925-1926:

President: Weston D. Bayley, M.D., Philadelphia, Pa.

President-Elect: George Reese Satterlee, A.M., M.D., New York City.

First Vice-President: Joseph Colt Bloodgood, M.D., Baltimore, Md.

Second Vice-President: Oliver T. Osborne, M.A., M.D., F.A.C.P.,
New Haven, Conn.

Treasurer: Robert H. Rose, A.B., M.D., New York City.

Secretary: Alfred J. Asgis, ScB., D.D.S., New York City.

Reprints Wanted

The New York University College of Dentistry is developing its library and would like to have pamphlets and reprints pertaining to dentistry which have been written during the last ten years. If any professor or teacher can help us out by sending any of his material, we should appreciate it very much. Address Librarian, New York University, College of Dentistry, 209 East 23rd Street, New York City.



Photograph shows the Toothbrush Drill performed by New York school children under the care of the Bureau of Child Hygiene. The Drill was a feature of the Bureau activities in Central Park

DENTAL LAWS

Summary of Dental License Requirements Throughout the World

By Alphonso Irwin, D.D.S., Camden, N. J.

PORTO RICO

Board of Dental Examiners of Porto Rico: Jorge M. Bird, President, San Juan; Angel Sifre, Secretary-Treasurer, P. O. Box 1276, San Juan; J. Lorenzo Casaldue, San Juan; Porto Rico Office of the Board, 3 Allen Street, San Juan, Porto Rico.

1909 (amended 1921-23) Dental Laws of Porto Rico. An Act providing for the organization of a Board of Dental Examiners. Be it enacted by the Legislative Assembly of Porto Rico:

Section 1. That the Governor of Porto Rico, with the advice and consent of the Executive Council, shall appoint, after the passage of this Act, three skilled dentists of good repute, residing and doing business within the Island of Porto Rico, who shall constitute a Board of Dental Examiners; but no person shall be eligible to serve on said Board unless he or she shall have been regularly graduated from some reputable dental college duly authorized to grant degrees in dentistry and shall have been engaged in the practice of dentistry, for a period of not less than six years previous to his appointment; Provided, however, that no person shall be eligible to serve on said Board who is in any way pecuniarily connected with any dental college or dental department of any college or university. The term for which the members of said Board shall hold their office shall be three years, except that one of the members of said Board first to be appointed under this Act, shall hold office for the term of one year, one for the term of two years and one for the term of three years, respectively, and until their successors shall be duly appointed and qualified.

Sec. 2. The Governor shall have the power to remove any member of the Board for incompetency, gross immorality, or any abuse of power, or for any other good cause, and may fill any vacancy occasioned

by removal, death, resignation, or otherwise, by appointment. Any person appointed to fill any vacancy on such Board, whether caused by death, resignation, removal, or otherwise, shall hold office for the unexpired term of the member he is appointed to fill.

Sec. 3. Said Board shall choose one of its members president and one secretary thereof, and it shall meet at least twice in each year. The proceedings thereof shall, at all reasonable times, be open to public inspection.

Sec. 4. After the passage of this Act, the records pertaining to the practice of dentistry, now with the Superior Board of Health, shall be turned into the custody of the secretary of the Board of Dental Examiners.

Sec. 5. After this law goes into effect any person desiring to begin the practice of dentistry on the Island of Porto Rico shall procure from the Board of Dental Examiners a certificate that such person is entitled to practise dentistry, and in order to procure such certificate, the applicant shall submit to the Board of Dental Examiners his diploma, with an affidavit setting forth the time and under what circumstances said diploma was received, and that the affiant is the person to whom the diploma was issued. Such application shall be accompanied by the affidavits of two free-holders, residents of the same town or district of the Island in which the applicant resides or intends to locate, stating that the applicant is the person named in the accompanying diploma and the application for a certificate. The diplomas received by the Board shall be returned to the person owning the same. Such applicant shall also submit any license obtained by examination from any State Board of the United States.

Sec. 6. In the event an applicant for a certificate from the Board of Dental Examiners shall present a diploma from a dental college which is not recognized as maintaining a sufficiently high grade of standard dental instruction or a license from any state which the Board considers to be not sufficient evidence of a proper dental education, the applicant shall have the privilege of being examined as to his qualifications to practise dentistry in such manner as the Board shall provide, and if he shall pass such examination satisfactorily, he shall receive a certificate for the practice of dentistry in the Island of Porto Rico. But if he should fail to pass such examination he shall be permitted to submit to another examination within twelve months from the time of the first examination.

Sec. 7. Every person obtaining a certificate from the Board, must, within thirty days from the date thereof, have the same recorded in the office of the Supervisor of Health. The Secretary of Porto Rico and the Supervisor of Health shall endorse upon the certificate the

date of the record, and charge and receive the usual fees for such services, the fees to be paid by the applicant.

Sec. 8. The Board shall from time to time establish and record, in a record kept by them for that purpose, a schedule of the minimum requirements which must be complied with by the applicants for certificates to practise dentistry before they shall be entitled to receive a certificate.

Sec. 9. The Board may refuse to grant a certificate to any person guilty of felony, or gross immorality, or addicted to the liquor or drug habit to such a degree as to render him unfit to practise dentistry, or to any person who may be found by the Board to be insane; and may, after notice and hearing, revoke a certificate and any license which may have been granted thereon for like cause. An appeal may be taken from the action of the Board to any court on the Island upon the applicant giving a good and satisfactory bond in the sum of two hundred dollars, to be approved by the court, to secure the cost of such appeal should the appeal be determined against him.

Sec. 10. It shall be the duty of the Attorney General of Porto Rico, and of the Prosecuting Attorney of any district court to which an appeal from any action of the Board may be taken, to represent the Board in any such appeal.

Sec. 11. The Board shall have power to make and establish all necessary rules and regulations for reciprocal recognition of certificates issued by other states.

Sec. 12. Each applicant for examination or for license to practise dentistry in the Island of Porto Rico, shall pay to the Secretary of the Board the sum of twenty-five dollars, which will be turned over to the Treasurer of Porto Rico, to be by him deposited in the Board of Dental Examiners' Fund hereby established, and shall constitute a fund from which shall be defrayed the entire expenses of the Board, and each member of the Board shall receive therefrom, upon presentation of proper vouchers or order drawn by the secretary of said Board and countersigned by the president, the sum of four dollars per day or part of a day for services rendered as such examiner. The Board shall keep a list of the names of all persons to whom licenses have been granted under the provisions of this Act, and also of all persons practising dentistry in the Island of Porto Rico in a book provided for that purpose, with the names arranged in alphabetical order.

Sec. 13. Any person who shall practise dentistry in this Island in violation of the provisions of this Act shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined not less than fifty dollars nor more than two hundred dollars, or sentenced to imprisonment for a period not exceeding ninety days, or both, such fine and imprisonment in the discretion of the court.

Sec. 14. Any person shall be deemed to be practising dentistry within the meaning of this Act who performs any work upon or makes an examination of the human teeth or jaws, with the purpose of performing or causing to be performed any operation thereon, or who opens an office for such purpose, or announces to the public in any way an intention to practise dentistry in any place in Porto Rico.

Sec. 15. The members of the Board of Dental Examiners are authorized to administer oath in matters regarding the discharge of their official duties. The said Board is charged with the duties of enforcing this Act, and it shall be the duty of any Prosecuting Attorney, on the complaint of the Board, or any member thereof, to prosecute any violation of this Act, and any Prosecuting Attorney who, upon receipt from the Board or any member thereof, of an affidavit charging any person within his jurisdiction of a violation of any of the provisions of this Act, who shall fail to prosecute such an offender criminally, shall be guilty of a breach of official duty.

Sec. 16. This Act shall not apply to licensed physicians or surgeons who are hereby authorized to extract teeth or to perform surgical operations at their usual office, residence, or within the vicinity of their ordinary practice whenever in their judgment the same is necessary.

Sec. 17. All laws, acts, orders and parts thereof in conflict with this Act, to be and the same are hereby repealed.

Sec. 18. This Act shall take effect from and after July 1, 1905.

Approved March 9, 1905.

INSTRUCTIONS FOR APPLICANTS—REQUIREMENTS OF APPLICATION

1. All persons desiring to commence the practice of dentistry in Porto Rico must apply to this Board for a license to do so.

2. Applicants for examination shall present to the Secretary of this Board, at least two weeks before the commencement of the examination, at which he or she is to be examined, a written application on a form provided by said Board, together with a certified check or money order for twenty-five dollars, the regular examination fee.

3. Evidence that the applicant is 21 years of age.

4. Certificates of moral character from two free-holders, residents of Porto Rico.

PROFESSIONAL EDUCATION

5. Candidates must have been graduated in course with a dental degree from a dental school, college or department of a university recognized by this Board; or shall hold a diploma or license conferring full right to practise dentistry in some foreign country, granted by some authority recognized by this Board.

EXAMINATION

6. Theoretical: All examinations shall be written either in the English or Spanish language, and shall be on the following subjects:

1. Anatomy, physiology and histology.
2. Materia medica, therapeutics, anesthetics and pathology.
3. Theoretical operative dentistry, practical operative dentistry and oral surgery.
4. Theoretical prosthetic dentistry, practical prosthetic dentistry and metallurgy.
5. Orthodontia, crown and bridge work, and chemistry.

Practical Operative Dentistry: Each candidate must bring his patient. A chair, engine and instruments will be provided. All cavities must be cleaned, but not prepared, previous to the day of examination. The cavity must be reasonably difficult. Candidates may use any style of gold excepting Crystal, Sponge or Mat gold. One gold and one amalgam filling will be required.

Practical Prosthetic Dentistry: The candidate must present plate and crown and bridge work that may have been executed by him. No excuse will be accepted for failure to comply with these instructions.

First. The examinations will commence promptly at 9 a. m., on the days designated, and continue until all the applicants have been examined. Notice will be sent each candidate when to bring his patient for operating.

Second. Each candidate, upon arrival, shall report to the secretary and receive a card, on which is his examination number. By this number shall the candidate be known throughout the examination.

Third. Applicants shall affix to their examination papers their number only, and, on the completion of the examination, shall sign the card under the number with full name and address, and return it to the secretary.

Fourth. Questions must be answered in routine, and papers handed in to the Examiner at the end of each section. All unanswered questions will be marked against the candidate.

Fifth. Any candidate withdrawing from the sight of the Examiner without permission shall forfeit his examination.

Sixth. All theoretical examinations shall be in writing. Candidates must come provided with a fountain or stylographic pen.

Seventh. Help of every kind must be removed from the reach and sight of the candidate. Any candidate detected in an attempt to give or obtain aid in copying the questions or in using any other unfair means, shall be instantly dismissed from the room and his papers for the entire work shall be cancelled.

Candidates are required to take entire examination, or no credit will be given, as no partial examination will be accepted.

All papers and signed cards must be turned in to the secretary by 5.30 p. m. on the last day of the examination.

All communications should be addressed to the secretary, Angel Sifre, P. O. Box 1276, San Juan, Porto Rico.

AMENDMENTS TO THE PORTO RICAN DENTAL LAW OF 1905

Section 1. Sections 5, 6, and 14 of "An Act providing for the organization of a Board of Dental Examiners," approved March 9, 1905, are hereby amended to read as follows:

Section 5. After this law goes into effect any person desiring to practise dentistry in the Island of Porto Rico, and not heretofore licensed to do so, shall procure from the Board of Dental Examiners a certificate that he is entitled to practise dentistry, and in order to procure such certificate, the applicant shall submit to the Board of Dental Examiners his diploma or certificate showing that he was duly graduated from a university or college of good standing authorized to grant diplomas in dental surgery, with an affidavit setting forth the date and under what circumstances said diploma was received, and that the affiant is the person to whom the diploma was issued. The diplomas received by the Board shall be returned to the owners thereof.

Section 6. The Board of Dental Examiners shall submit the applicant to an examination to show his competence to practise dental surgery and for the purpose of issuing to him a license entitling him freely to practise his profession. Should such applicant fail in said examination, he shall be permitted to take a new examination within the four months following the date of his first examination, without paying new fees.

Section 14. Any person shall be deemed to be practising dentistry within the meaning of this Act who performs any work upon or makes an examination of the human teeth or jaws, with the purpose of performing or causing to be performed any operation thereon, or who opens an office or laboratory for such purpose, or advertises himself to the public in such form as to suggest that he practises dental surgery in any of its branches.

Section 2. All laws or parts of laws in conflict herewith are hereby repealed.

Section 3. This Act shall take effect ninety days after its approval.

Approved, July 8, 1922.

Verified August 12, 1922, by Wm. Lay Patterson, Assistant to Chief of Bureau War Department, Insular Affairs, Washington, D. C., U. S. A.

DENTAL ECONOMICS

Cutting Off the Endorser

By M. L. Hayward, Hartland, New Brunswick

(EDITOR'S NOTE.—This article is the first in a series which will be published during 1926. Nearly everyone thinks he knows something about law, but in law, as in many other things, an ounce of prevention is worth *more* than a pound of cure. Mr. Hayward, who is solicitor for the Bank of Montreal, has prepared these articles in simple language which sets forth the experiences of others. Every one of the articles in the series is based on an actual case, and a careful reading should act as a safeguard against the mistakes which led others into difficulties.)

"Take my note for my past due account?" the customer queried.

"Yes, if you'll get your brother John to endorse it," the dentist agreed, accepting the note and placing it in the local bank for collection.

A week later, John, the endorser, strolled in.

"Have you a note endorsed by me?" the endorser queried.

"I have and I haven't. I have the note, but I left it down at the bank for collection," the dentist assured him, and the endorser made his way to the bank.

"I understand that you're holding a note made by my brother in favor of the dentist up street, and endorsed by me," the endorser announced, and the cashier confirmed his impression.

"At the time I endorsed the note there was an understanding between my brother and me in reference to a certain business matter that wasn't carried out, and he agreed to take my endorsement off the note," the endorser explained.

"What do you want us to do?"

"You know that my brother's good for three times the face of the note, and if you'd just mark my endorsement off the back it would fix everything up all right," the endorser proposed. The cashier located the note and drew two heavy red lines through the endorsement.

Time passed on, according to a habit which it has, the note fell due, the customer was in bankruptcy, the endorser refused to pay, and the dentist sued the bank in the Georgia courts.

"Where the pledgee permits the endorser to erase or withdraw his endorsement from the notes without the consent of the pledgor, thus rendering the notes insolvent, such action on the part of the pledgee amounts to a conversion of the notes, just as much so as if it should sell the notes and receive the value in money therefor," was the reasoning of the Court set out in *117 Southeastern Reporter, 741*.



PRACTICAL HINTS

This department is in charge of V. C. Smedley, D.D.S., and George R. Warner, M.D., D.D.S., 610 California Building, Denver, Colorado. To avoid unnecessary delay, Hints, Questions and Answers should be sent direct to them.

NOTE—Mention of proprietary articles by name in the text pages of the DENTAL DIGEST is contrary to the policy of the magazine. Contribution containing names of proprietary articles will be altered in accordance with this rule. This Department is conducted for readers of the DENTAL DIGEST, and the Editor has no time to answer communications "not for publication." Please enclose stamp if you desire a reply by letter.

Editor Practical Hints:

Having searched in all available periodicals relating to dentistry and elsewhere, and having been unable to find any data relating to this particular phase of the profession, I thought it a good plan to ask you for information regarding same.

(a) How long after extraction should one wait before replacing the extracted teeth by means of fixed bridgework?

(b) If any untoward results would follow such practice, what are they likely to be?

I have been under the impression that it was necessary to wait until inflammation had subsided and a certain amount of resorption taken place before making restoration. I understand that there is a man here who replaces teeth by means of fixed bridgework immediately after extraction, or the following day, whereas I have been taught and advise my patients to wait from six to eight weeks at least.

Will thank you kindly for advice in this matter.

C. H. H.

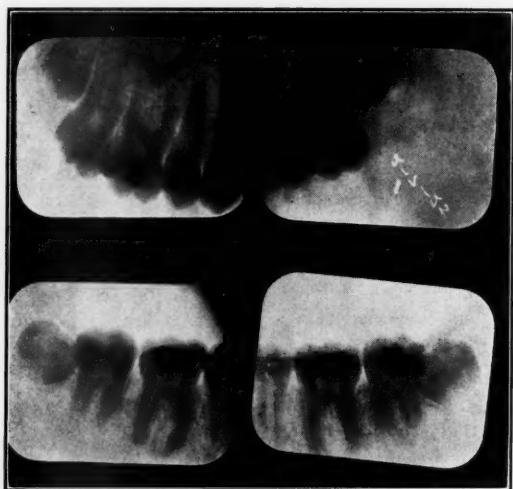
ANSWER.—My personal opinion (and I presume that is what you want), is that a consideration of each separate individual case should be the governing factor in this matter. In those cases where baked porcelain roots are placed up in the socket the sooner the bridge can go in after extraction the better. This is a technique that has been taught and advocated by Doctor E. T. Tinker of Minneapolis, and others, for some years, and it is unquestionably good practice in selected cases for individual teeth, and if the porcelain extension is properly shaped and fused and not inserted too deep. On the other hand if

you are making a type of bridge dummy providing a wide open space between gum and dummy, such as the old span or prophylactic type, it does not matter particularly when the bridge is inserted, but if you are depending upon a close-fitting saddle with a contact with the bridge area that you expect to be accurately maintained, it is wiser to wait, as you say, for at least six or eight weeks before placing the bridge.

—V. C. SMEDLEY.

Editor Practical Hints:

Find enclosed X-rays of the four wisdom teeth in the mouth of a girl thirteen years and seven months old. It seems to me these are causing the other teeth to become irregular, especially the lowers. Can you tell anything from these X-rays, or can you give me any information as a result of your observations in these cases?



Would certainly appreciate your opinion as to extraction, regulating appliances, or what you think would be the best thing to do for this mouth.

A. B. K.

ANSWER.—Impacted third molars are a recognized cause of irregularities of the teeth, and orthodontists usually insist upon their early removal.

The lower thirds in your case seem to be hopelessly impacted and a potential cause of malalignment of the lower anterior teeth. This would in turn have an unfavorable influence on the upper teeth, even

if the upper thirds are not lying at an angle which would force the upper teeth out of line, and it would seem to me that this latter is the case.

It would be my advice to remove the lower thirds at once, while the roots are unformed.

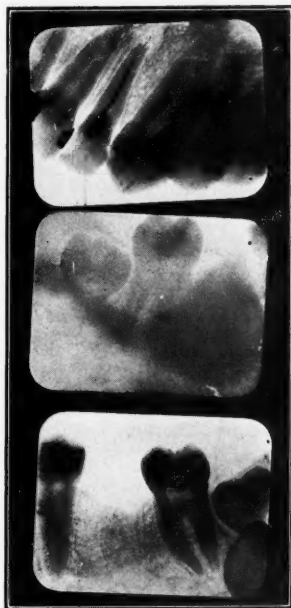
The matter of regulating appliances would be independent of the removal of the third molars and would, of course, depend upon a diagnosis of malocclusion.—G. R. WARNER.

Editor Practical Hints:

1. Would one mandibular injection have much effect on a leaky heart, or any other condition?

2. I find many cases of deep-seated caries in six year molars in children 7 to 10 years of age, which are too painful to excavate; what would you advise? Would pressure anesthesia be apt to drive infection into the pulp?

3. Case: Boy, 13 years old; cuspids coming labially to laterals; would you extract laterals?



4. Cases: Men, middle aged, with end to end bite; teeth worn down about half; would incisal foils be proper?

5. Case: Boy, 13 years of age. Physician's diagnosis was

chorea. His maturity appears to be about 3 years ahead of his age. Would like to have your diagnosis of the second and third molars. Would root apicoectomy be indicated in the upper right lateral?

C. H. B.

ANSWER.—1. The usual novocain tablet has just enough suprenin in it to be stimulating to heart action, and only in such cases as is stimulation contraindicated, would the novocain be deleterious.

2. Use novocain infiltration or interosseously for maxillary molars, and mandibular injection for mandibular molars; then you can excavate thoroughly, as, of course, should be done. Use a sedative cement over the deeply excavated portion before insertion of filling.

3. Cuspids in the place of laterals usually give a peculiar appearance to mouth, therefore it is ordinarily better to expand the arch to make room for cuspids. If this can't be done and laterals are normal sound teeth, it probably would be better to extract cuspids.

4. If bite is not to be raised, foil fillings are usually indicated.

5. In the hands of a capable orthodontist this would be a good case to guide the second molars into the place of the first molars, and allow third molars to erupt in the second molar sockets.

The upper left lateral is a reasonably good case for an apicoectomy.

—G. R. WARNER.

Editor Practical Hints:

Would you be kind enough to answer the following question?

Is it a good plan to insert a bridge and dismiss the patient for a day or more before cementing the piece in position? If so, why?

S. J. C.

ANSWER.—It is a good idea to insert a bridge and dismiss the patient for a day or two before cementing, because you are more apt to get the case thoroughly seated at the time of cementation, as wearing it will permit the abutments to adjust themselves to the alignment of the bridge, and the inlays or other bridge fittings to become thoroughly seated within or upon the abutments.

This also gives the patient and you an opportunity to observe the esthetics of the restoration. If there is anything about it with which the patient is going to be hopelessly dissatisfied, it is better to find it out before the case is cemented and while it is reasonably possible to correct it.—V. C. SMEDLEY.

Editor Practical Hints:

Kindly advise me how to secure the best results in the removal of a broach that has broken off in a root canal.

C. N. G.

ANSWER.—We would, no doubt, as a rule, be serving our patients best in such a case by the extraction of the tooth, but where in any particular case extraction is inadvisable, if it is a barbed broach, it can sometimes be fished out by snaring the barbs in a few cotton fibres twisted around the end of another fine barbed broach. If it is broken off too short for this, work up beside it with 50% sulphuric acid and fine broaches with a gentle churning or pumping motion until the broken piece can be tilted or lifted out.

There is a theory that a broken broach can be rusted out by sealing iodine in for a few days but this method has not proven very practical in my hands or in the hands of anyone with whom I have conversed on this matter. You should, of course, be guided by x-ray pictures in a procedure of this kind. First, to assist you in determining whether or not an effort to remove the broach is worth while at all and, second, to show you direction, length and position of the broken broach and danger of perforation, etc.—V. C. SMEDLEY.

Editor Practical Hints:

I would like to ask if you have a sure method to stop bleeding after removing nerve? I have some cases which had been treated in last six months, yet are the same.

K. A.

ANSWER.—I believe that your bleeding canal is due to a perforation of the side of the root. I think it is very rarely, if ever, the case that a pulp severed at the apex at time of removal will bleed at subsequent sittings. However, in case of either a perforation or an abnormally large apical foramina, which may be the case in this instance, I know of no better material than the sedative cement, formula of which was published in the April Practical Hints, for filling over this raw and sensitive surface.—V. C. SMEDLEY.



DENTAL SECRETARIES and ASSISTANTS

Secretaries' Questionnaire

All questions and communications should be addressed to Elsie Pierce, care of THE DENTAL DIGEST, 220 West 42nd Street, New York City.

In the care of the electrical equipment in my office I am often at a loss to tell which are the positive and negative poles of the electrical batteries; also, how to distinguish the positive wires from the negative wires connecting to equipment. Is there any way by which this can be done without too much trouble?

V. W., Connecticut.

A very simple and effective way of distinguishing the positive from the negative pole of a battery is to connect a short piece of wire to one pole and another short piece of wire to the other pole; then take a small potato, cut a piece from each end and insert each of these wires about half an inch into the cut ends of the potato. In a very short time that end of the potato into which the wire connected with the positive pole is inserted will become dark, the other end remaining clear.

If you are in doubt as to the wires coming from your equipment, the same method will apply. Two wires that are insulated into one strand, one the positive and the other the negative, can usually be distinguished by the red strand woven into the insulation of the positive wire. Another method used by electricians to distinguish the positive from the negative wire, where the same kind of wire is used for each, is to tie a loose knot in the positive wire.

In an article on the duties of the dental assistant which I read recently I saw that the dental assistant was called the "hostess of the dental office." I should like to know what is meant by this; and in what particular way does she act as hostess?

A. B., Missouri.

First, we must take into consideration that the reason for the calling of dental assistant is because the dentist requires some one in

his office who can care for the many duties in the conduct of his practice that will permit him to devote all his time to professional service to his patients. One of the important duties of the dental assistant is to receive the patients as they come into the office and dismiss them as they go out. The dictionary gives the definition of the word "hostess" as "one who dispenses hospitality, or one who entertains guests." Are not the patients who come to the office guests of the office? Is not the hospitality of the office extended to them?

The dental office is the business home of the dental assistant. Just as she makes an effort to have everything clean, attractive and in place in her own home when visitors are expected, in her capacity as hostess she should feel the same about the appearance of the dental office. First impressions are of great importance, and the dental assistant should be equally particular about her personal appearance.

In the reception and dismissal of patients the same gracious courtesy should be exercised by the dental assistant as would be to any visitor in her own home, never forgetting that they are not her personal callers but that she is acting for the doctor. Patients coming to the office for the first time should be introduced to the doctor by the dental assistant. It makes both the patient and the doctor feel more at ease to have the dental assistant say, "Dr. Blank, this is Mrs. White, who has been referred to you by Mrs. Black."

In the care of children a tactful dental assistant in her capacity of hostess can do much to create in their minds a feeling of safety. She can find some way to amuse them and divert their attention from themselves and make it easier for the doctor. Elderly patients like to feel that they are especially being taken care of; they appreciate a manifestation of sympathy on the part of the dental assistant.

I trust that the foregoing will give you an idea as to the possibilities of the dental assistant acting as "hostess."

A Dental Assistant's Creed

To be loyal to my employer, my calling and myself.

To develop initiative—having the courage to assume responsibility and the imagination to create ideas and develop them.

To be prepared to visualize, take advantage of, and fulfill the opportunities of my calling.

To be a coworker—creating a spirit of cooperation and friendliness rather than one of fault-finding and criticism.

To be enthusiastic—for therein lies the easiest way to accomplishment.

To be generous, not alone of my means but of my praise and my time.

To be tolerant with my associates, for at times I too make mistakes.

To be friendly, realizing that friendship bestows and receives happiness.

To be respectful of the other person's viewpoint and condition.

To be systematic, believing that system makes for efficiency.

To know the value of time, for both my employer and myself.

To safeguard my health, for good health is necessary for the achievement of a successful career.

To walk on the sunny side of the street, seeing the beautiful things in life rather than fearing the shadows.

To keep smiling always.

J. A. S., N. Y. C.

The Value of Organization*

By Jean Tallaksen, New York, N. Y.

I wonder how many of us realize the value of organization, how many of us appreciate the knowledge obtained from association with a group of women engaged in one profession.

The formation of our Society had for its object to interest and aid all dental assistants to perform their duties in a better and more scientific manner.

Successful organization is maintained on the following basis: (1) attendance; (2) interest; (3) cooperation; (4) growth. Suffice it to say that attendance at meeting is absolutely essential.

The first point I wish to bring out more specifically at this time is *attendance* at classes conducted by our Society. By attending the classes a young woman with practically no experience can obtain a course of instruction for which the dental students pay large tuition fees. This enables her to apply the knowledge thus gained in a most useful and efficient way. It takes her from the ranks of the automaton, energizes her mental faculties and engenders initiative.

My second point deals with *interest*. In order to do anything well, one must be interested in the doing thereof. If done in a haphazard way, the result will be seen in the finished product, and that result will not stand rigid inspection. Loose, matter-of-course efforts lead to failure. One must plan and study in order to execute properly.

In our Society this holds true, just as it would in any other organization. To have a strong, healthy society, we must take a keen interest

* Read before the Educational and Efficiency Society for Dental Assistants, First District New York.

in its affairs. There are many ways of doing this, such as securing new members, reading papers before the Society, making helpful suggestions and taking part whenever called upon to do so. By active participation one also loses that self-consciousness so prevalent in many people, who only take part on rare occasions. By being continually on the active list one is not stampeded when called upon in an emergency. Therefore, be interested in the affairs of your Society and it will be very interesting to you.

My third point is *cooperation*. The outcome of lack of cooperation in any organization will result in unhappiness, absence of harmony, and failure. It is the duty of each and every member to help in every way possible. Cooperation on the part of everyone brings the success and recognition that we are all striving for. Webster defines cooperation as "joint operation." Let us all join together in this work and make it so much easier for the one who is the founder and leader of our Society. The success of any organization cannot be worked out single-handedly. It is said, "No man liveth unto himself," so we realize that by hearty cooperation our Society will always be in the lead. Let us not be like the man who said, "Doctor, I should like to join your church. I enjoy the singing and the preaching immensely." "That is very kind of you," was the reply, "but what part of church work would you like?" "No, no, no, that is not my thought, but just to attend church and enjoy it." "If that is so," replied the preacher, "I would suggest your joining the Church of the Heavenly Inactivity." Let us all bring our ideas to the Society, even if it be only occasionally. We all know that "in unity there is strength," therefore let us all work together for the welfare of our Society in general and each other individually.

The last phase of my talk has to do with *growth*. This, of course, is dependent upon the fulfillment of our obligations as outlined in my other three points. Growth and development cannot help coming to the organization that has well-attended meetings, where keen interest is shown and the members work together in harmony. An organization, to be successful, cannot stand still. It must develop in numbers, ideals and character.

Now, then, we want our membership to grow. Canvass the district in which you are employed and endeavor to bring other dental assistants to the meetings. There are so many in New York who do not know of our Society, and if we, as members, will not take it upon ourselves to make this known, how can we secure that interest which will culminate in obtaining members of great value to the organization?

Our Society will be in its infancy for some time. Many big things will be accomplished and in their accomplishment each one of us will play an integral part. Visualize our Society twenty-five years

from now—strong and great in point of membership and occupying a position of esteem and renown in the dental world, a dominant factor in the life of the profession. Will it not be a source of delightful retrospect to those of us who are still alive to know that we have had our part in this wonderful achievement? And for those of us who are no more at that time, will not our names and what we have done be written indelibly on the pages of dental history, as having performed our task faithfully and well and with that earnestness of purpose that knows of nothing but success? It is not intended, of course, to convey the thought that we are members just for the glory that is in it, but, like Francis Scott Key, when he saw the flag waving triumphantly after the long night bombardment and felt inspired to compose our national anthem, so should we all feel that everything done by us in the present toward the furtherance of the aims of our Society will accomplish those big things we have set out to do and merit the approval and praise of an appreciative posterity.

24 State Street.

Care of the Teeth

By Lillian Cormier (Assistant), Brockton, Mass.

I will briefly outline a few of the most important facts concerning the care of the teeth. Beginning with the temporary set, we find the average development, eruption and absorption as follows. Between the ages of six and nine months the child gets his first temporary teeth or central incisors, the second or lateral incisors appearing about the same time. When the child is three years old, he should have all except the second molars, the last to erupt of the deciduous set. When four years old, all are in place, ten in the upper arch and ten in the lower.

These are usually retained until the seventh or eighth year, when the permanent set comes in to take the place of the temporary. The first of these to erupt are the first molars, erupting in the sixth year. When the child is thirteen, he should have lost all of the temporary set. When fourteen years old, all the permanent teeth should be in place except the third molars or wisdom teeth.

The temporary set should be cared for and retained in the arch just as long as possible. However, when the permanent set begins to make its appearance, temporary teeth in the way of the erupting permanent teeth should be removed. If this is not done, there are likely to be irregularities and malpositions in each arch.

As soon as the first permanent molars erupt, they should be cared

for. They are the most important in the arch, forming what is called the "key to the arch." When a tooth decays, it should be filled. Neglect will cause much pain, exposure of the pulp and often the loss of the tooth.

Between the ages of two and three the child should be taken to the family dentist for a thorough examination, and thereafter at regular intervals of not more than six months. Proper care saves teeth and keeps pain away.

LILLIAN CORMIER (Assistant),
Brockton, Mass.

November Meeting

OF THE

EDUCATIONAL AND EFFICIENCY SOCIETY FOR DENTAL ASSISTANTS,
FIRST DISTRICT, NEW YORK, INC.

On Tuesday, November 10, 1925, the Educational and Efficiency Society for Dental Assistants, New York, held a regular meeting at the Academy of Medicine, 17 West 43rd Street, New York City. There was a large attendance of members and guests, including several members of the dental profession. Following the usual procedure, a chairman for the evening was appointed by the president, Juliette A. Southard. Anna H. Sykora was the one chosen.

Progress was the outstanding note of the evening. In an excellent and very entertaining talk Dr. John Oppie McCall told of the advances made during the past three generations in the conduct of the dental office. He described the duties of the dental assistant of twenty years ago, comparing them with the duties and responsibilities of the dental assistant of today. He emphasized particularly the importance of telephone courtesy, saying that the "voice with a smile" is of especial value in this connection.

The second speaker on the program was Lucy H. Gillett, a dietician associated with the Association for the Improvement of the Condition of the Poor. She spoke on the topic *Is Food a Factor in Preventive Dentistry*, giving a very instructive lecture.

Emily Campbell, Director of Classes, reported that a class in First Aid had been organized and would be in session on each Thursday evening, from 7:30 to 9, for ten consecutive weeks under the direction of Dr. Gregory at 345 Lexington Avenue, New York City. The first meeting was held on November 5th and was well attended. At the completion of the course each member passing the final examination

will be awarded a First Aid Certificate. Plans have been made for the formation of classes in Chair Assistance, Secretarial Duties, Sterilization, Laboratory Assistance, Care of Equipment, Gold Casting, Practical Psychology, and Public Speaking and Parliamentary Procedure, to be started shortly.

Agnes F. McNeill, Acting Director of the Clinic Club, urged that all members of the Society become members of the Clinic Club, to bring to the Club new ideas and new material and, in return, share in the many advantages derived from the clinics and the association with others engaged in an endeavor of mutual interest, the further education of the dental assistant so that she may acquire greater efficiency in her work in the dental office.

The librarian, Anna Neulinger, announced that she had prepared an indexed list of current literature of interest to the dental assistant and that she had copies of papers and magazines for the perusal and study of the members of the Society. She is also compiling a scrapbook to contain clippings and articles relating to dental assisting, methods of procedure, and the history of the dental profession and dental equipment and asked that the members cooperate with her in this most interesting and valuable work. Communications will reach her at 535 West 110th Street, New York City.

It was announced that the annual mid-winter entertainment and dance of the Society will be held at the Hotel McAlpin, Broadway and 34th Street, New York City, on Wednesday evening, January 20, 1926. Agnes F. McNeill, 113 South Elliott Place, Brooklyn, is chairman of the committee in charge.

The meetings of the Society are held on the second Tuesday evening of each month, October to May, inclusive, at the Academy of Medicine, New York City. A cordial invitation to attend is extended to the members of the dental profession. Dental assistants are cordially welcome.

Clinic Club

OF THE

EDUCATIONAL AND EFFICIENCY SOCIETY FOR DENTAL ASSISTANTS,
FIRST DISTRICT, NEW YORK

The November meeting of the Educational and Efficiency Clinic Club took place at the office of Dr. W. Short, 342 Madison Avenue, New York City, on Monday, November 16, 1925. The sections on Chair Assistance and X-Ray Assistance were demonstrated, and there was an exhibition of instrument-sharpening.

The Clinic Club, whose aim it is to present a practical exposition of the duties of the dental assistant and to describe the various routes she may travel in order to execute these duties with efficiency, is divided into several sections to facilitate demonstration. Each section represents a different aspect of dental assisting, and the entire clinic comprises the daily routine of one dental assistant. The Secretarial Section describes the executive branch of the dental assistant's work; the Chair Assistance Section explains her service at the chair in all types of dental operations; the Sterilization Division demonstrates the manner in which she upholds her responsibility as "guardian of the sterilizer"; the Section on Laboratory Assistance illustrates her skill and helpfulness in the laboratory; the X-Ray Assistance Section explains her work in the dark room and the methods she employs in marking and filing radiographs; and the Orthodontic Assistance Division demonstrates her services in assisting the orthodontist, caring for models and keeping of records.

On this evening Sylvia Danenbaum, standing behind the table representing the Chair Assistance Section and the preparation of the general accessories used at the chair, in a twenty-minute lecture explained the manner in which the young woman may render her assistance there most efficiently and described the many aids to better service which were presented on the table. There were several types of headrest covers, aprons, instrument and glove wraps; ingenious dental utilities contrived by the dental assistant, such as hair receivers converted into waste receivers, old cement bottles into drug bottles, salt holders into pumice dishes, inexpensive glass jars into swab and cotton roll receptacles, all with an eye to constructiveness and sensible economy. The clinician demonstrated the making of cotton, gauze, and cotton roll swabs and the methods employed to sterilize them and to keep them sterile, the preparation of anesthetics, and first aid.

Emily Campbell presided over the X-Ray Assistance table, explaining the procedure in the dark room and the marking of radiographs. She demonstrated a very practical device for developing x-rays where there is no dark room and exhibited some tanks for the developing and rinsing of films which were constructed by a member of the Club. The clinic included a collection of the various kinds of film mounts and a series of pictures showing defects in development, the causes for which were explained by the clinician.

A demonstration of instrument-sharpening was presented by Beatrice Zeigen, who described the proper method to be used in sharpening very delicate-edged instruments, such as pyorrhea scalers, showing fine skill and workmanship.

At the close of each short lecture by the clinicians questions were

asked by the audience, and many new suggestions for the further improvement of the entire clinic were made.

The Club meets on the third Monday evening of each month, October to May, inclusive. A cordial invitation to attend is extended to the members of the Educational and Efficiency Society for Dental Assistants, New York, and their membership in the Club is urged. All members of the Society are eligible to join and are assured that they will benefit in both knowledge and experience by participating in the activities of the Clinic Club.

Resolution

PRESENTED TO THE HOUSE OF DELEGATES OF THE AMERICAN
DENTAL ASSISTANTS ASSOCIATION, SEPTEMBER 22, 1925

Whereas: Education is the underlying power in all human activities.

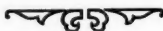
Whereas: Dentistry did not become a recognized profession until fully equipped dental schools were organized and maintained in order that those who so desired to serve humanity might be properly educated.

Whereas: The safety and welfare of the public demands educated service for its protection and, the duties of the dental assistant or nurse being akin to those of the medical nurse, they should be equally well educated and trained.

Whereas: The opportunity to secure this education and training, in order to qualify properly as a dental assistant or nurse, is almost impossible. Therefore, be it

Resolved: That the American Dental Assistants Association, in convention assembled, earnestly petition the recognized dental schools of the United States for the establishment of a department wherein those who seek to serve humanity in the capacity of dental assistant or nurse may have a means of acquiring the proper education and training. Be it further

Resolved: That a copy of this resolution be forwarded to the Dean of every recognized dental school in the United States.





EXTRACTIONS



No Literature can have a long continuance if not diversified with humor—ADDISON

"I had a tooth pulled this morning."
"Did you have an anesthetic?"
"No—a toothache."

About the only way a king can get on the front page nowadays is to be dead 4000 years.

(Definition of a Football Game)—
Twenty-two nice young men entirely surrounded by maniacs.

Spank your children and you raise blisters; don't spank them and you raise Bolsheviks.

(How to Live in Chicago)—A prominent dentist says: "When I leave my office for the night I put a sign on the door reading—'Back in 10 minutes'—that keeps the burglars away."

(Taxi Driver)—One dollar, please, for this ride.

(Customer)—Back up to 50 cents, that's all the money I have.

Burglars have to be away from home a good bit of the time. Even when one gets a life sentence he is often away from home a year or two.

(Con Dyle)—Say, Max, did you ever hear this one?

(Max Illary)—Shoot. Whatzis?

(Con)—"Most dentists are society-loving chaps. They attend a whole lot of swell gatherings."

(Max)—So's your old man!

The go-getter is a great guy, but there is one who has him beaten, and he is the bring-backer.

(Old Sport)—When may I call to see you, little girl?

(Miss Wise)—Any night you say, except a Thursday, because that's amateur night.

Another good cure for insomnia is to go ahead and sell the darn stocks.

(George)—Bessie, there is something the matter with this old car again. It absolutely refuses to go.

(Bessie)—Use your head, George. Drive up that shady lane. This is too conspicuous!

A tightwad sent in one dollar to a concern which guaranteed to tell him how to save half his gas bills. The concern wrote back: "Paste them in a scrapbook."

A lot of young ladies nowadays put off till tomorrow what they should wear today.

"Rastus, I'm sorry to hear you've buried your wife."

"Boss, ah just had to—she was dead."

A New York woman has at last found out where her husband spends his evenings. She stayed home one night last week and found that he spent them there.

According to the physicians candy is a very good substitute for liquor, but it never makes any one want to kiss a policeman.

WHOSE CAR?

When it's newly washed—Mother's.
When it's just overhauled—Son's.
When there's a dance on—Daughter's.
When it needs repairs, fresh paint, five new tires and a tank full of gas—Dad's.

(Colored Maid — returning from morning service)—Dat man sho' did preach long; he must a-preach from Generous to Regulations.

Here lie the remains of a radio fan,
Now mourned by his many relations;
He went to a powder mill, smoking his pipe,

And was picked up by twenty-one stations.

There is something, say what you will, in picking out your profession. For instance, it's a great snap to be a minister. You have some work to do on Sunday, of course, but you can go fishing all the rest of the week.

A Chinese truckman in San Francisco sent the following bill to a grocer for delivering orders:

10 Goes
10 Comes
At 50c. a Went.....\$5

DIETETICS and HEALTH

Vitamins for the Winter

Many southern states and a portion of the two northern states, western Washington and Oregon, need give little more thought to the vegetable supply in the winter than in the summer.

Other less favored as to climate will gain in health by checking carefully the sources of the vitamin, according to "The Pacific Coast Journal of Nursing."

Canned tomatoes can be or should be a part of the every day menu if nothing raw is available. Raw, cooked or canned tomatoes are, according to Dr. Sherman's Food Products, a good source of vitamin A and an excellent source of B and C. Dried tomatoes lose some C but remain unchanged as a source of A and B. Catsup is not discussed.

Almost every family can have cabbage. Green raw cabbage contains considerable A and B and is very high in C. Head cabbage (minus the green coloring) is not so good a source of A as the green. Cooked cabbage loses some of the A and more C, while retaining the original amount of B.

Dry beans, kidney, navy and soy, have a small amount of vitamin A and are a fine source of B. The sprouted beans (used chiefly in chop suey and other Chinese dishes) contain fair amount of C.

Raw bananas are a fine source of C, as are apples. It is doubtful if stored apples contain any vitamin C. Potatoes, beets, carrots and parsnips may be similarly characterized.

Milk is high in A, contains a moderate amount of B, and the C content is highly variable. Pasteurization destroys the vitamin C. Fresh milk brought quickly to the boiling point loses little of the C content. It must be borne in mind that informed persons do not depend upon milk for vitamin C, but prize it highly for other constituents, fat soluble A, mineral and protein chiefly.

A and B are not appreciably changed processing.

One of the Margarine adds extract of alfalfa leaves as a source of vitamin A. Egg yolk is an excellent source of A. It contains some B and practically no C.

Orange juice contains some A, and more B and considerable C.

Pineapple, fresh or canned, is an equally good source of A and B, though it is not high in either. The raw pineapple is high in C.

Sweet potatoes contain more A than white potatoes. The white potatoes are a good source of B and C if not stored or cooked too long.

Yeast is high in B.

Remember that starch and sugar contain no vitamins.

Our Knowledge of Vitamins

In connection with the preceding article it might be interesting to briefly explain the nature of vitamins, that is to say, so far as we know anything about them definitely.

Vitamins are the elements in food which are apparently vital to certain functions of the body, necessary to human—or animal—existence. Hence the name.

It has not been possible to isolate positively these vitamins, and their chemical composition is unknown. It has been possible, however, to prepare concentrates very rich in vitamins, and to prepare other foods wholly lacking in them. By feeding these to various animals, and noting the effects on various glands, we have succeeded in furthering our knowledge.

These things seem quite unreal and impossible to the average person, because they are so far beyond the range of ordinary experience. But there is a growing conviction among scientists that the glands play a more important part in our earthly existence than we have supposed.

By means of scientific experiments the vitamins have been divided into three classes called Vitamins A, B, and C. Vitamin A is a fat soluble, such as is obtained from milk. Vitamin B is a water soluble, such as is obtained from green vegetables, and seems to be closely associated with growth, especially in young animals. Vitamin C is also a water soluble, such as comes from oranges, lemons, etc., and appears to be concerned especially with keeping adult tissues in healthy condition. Vitamin D is under consideration, and so we can see a path to a vast new field of research cleared away, which field may hold tremendous results for the human race.



FUTURE EVENTS

The January meeting of the CHICAGO ALUMNI CHAPTER OF THE PSI OMEGA FRATERNITY will be held during the mid-winter Clinic of the Chicago Dental Society, January 27-29, 1926, at the Drake Hotel, Chicago, Illinois. The annual banquet will be held Friday, January 29, 1926. All visiting Psi Omegas are urged to remain for this affair.

T. E. JOHNSON, *Grand Master*,
1933 Milwaukee Avenue,
Chicago, Ill.

S. A. HUTT, *Secretary*,
3166 Lincoln Avenue,
Chicago, Ill.

Will all Alumni of the XI PSI PHI FRATERNITY residing in or about New York City please write to the undersigned for complete details of membership and coming events?

STANLEY SLOCUM, *Secretary*,
597 Fifth Avenue, New York City.

THE AMERICAN SOCIETY OF DENTAL RADIOGRAPHERS will hold their mid-winter meeting at the Drake Hotel, Chicago, Ill., Saturday, January 30, 1926, at nine o'clock. A splendid program is in preparation.

ARNOTT A. MOORE, *Secretary*,
131 Allen Street, Buffalo, N. Y.

The annual meeting of the CALIFORNIA STATE ALUMNI CHAPTER OF THE PSI OMEGA FRATERNITY will be held at the Athens Athletic Club, Oakland, California, Saturday, February 20, 1926.

The general meeting will convene at 2 P. M. for initiatory and degree work, business session and election of officers. A banquet will be held at 6:30 at the Club, for which reservations must be made of the Secretary.

ARTHUR R. McDOWELL, *Grand Master*,
344 Fourteenth Street,
San Francisco, Calif.

JOHN E. GURLEY, *Secretary*,
350 Post Street,
San Francisco, Calif.

The next meeting of the ALABAMA DENTAL ASSOCIATION will be held in Birmingham, Ala., April 5, 6, 7, 1926, with headquarters at the Tutweiler Hotel.

F. F. PERRY, *Secretary*.

CHICAGO DENTAL SOCIETY'S ANNUAL MEETING AND CLINIC

January 27, 28, 29, 1926—Drake Hotel

The sixty-second annual meeting and clinic of the CHICAGO DENTAL SOCIETY will be held at the Drake Hotel, Chicago, January 27, 28 and 29, 1926, Wednesday, Thursday and Friday. The plans for this meeting have been perfected and contemplate the establishment of a new mark in program-building. That the 1926 meeting will excel all previous records of this Society is witnessed by the following facts:

1. There will appear on the literary program 256 men to present papers, addresses and discussions in the ten different sections, at two noon-day luncheons, and at the two big general session meetings.

2. Two one-half days will be devoted to clinics: Thursday afternoon and Friday morning. The clinics will consist of seven types, as follows:

- (a) Progressive clinics.
- (b) Lecture clinics.
- (c) Section clinics.
- (d) Junior clinics.
- (e) Table and chair clinics.
- (f) Study club clinics.
- (g) Senior student clinics.

There will be a total of 200 clinics, 100 to be given each half-day.

3. The President of the American Dental Association, Dr. Sheppard W. Foster, and Mrs. Foster will be the guests of honor at a banquet, which will be followed by a program of dancing and entertainment.

4. The number of commercial exhibits will excel all previous records, for more space has already been sold than for any previous meeting of this Society.

Railroad rates have been secured for this annual meeting.

A special invitation is extended to all members of the American Dental Association and to dentists living in foreign countries who are members in good standing in their national societies.

Hotel reservations should be made immediately, direct with the hotels.

We are gratified to announce to the profession that Dr. Otto U. King, General Secretary of the American Dental Association, is Chairman of the Program Committee.

M. M. PRINTZ, *President*,
HUGO G. FISHER, *Secretary*,
25 East Washington Street.

The forty-sixth annual convention of the TEXAS STATE DENTAL SOCIETY will be held at Wichita Falls, Texas, April 20-23, 1926. The outstanding feature of this meeting will be six postgraduate clinic courses to be conducted by leading men of the profession.

F. F. BROWN, *President*,
Wichita Falls, Texas.
J. G. FIFE, *Secretary-Treasurer*,
Medical Arts Bldg., Dallas, Texas.

The Fifty-ninth Annual Meeting of the TENNESSEE STATE DENTAL ASSOCIATION will take place on May 4-5-6-7, 1926, at Nashville, Tennessee.

J. B. JONES, *Secretary*.

The next meeting of the AMERICAN DENTAL ASSISTANTS ASSOCIATION will be held at the same time as the American Dental Association in Philadelphia, Pa., August 23-27, 1926.

JULIETTE A. SOUTHARD, *President*,
174 West 96th Street, New York, N. Y.

The next meeting of the AMERICAN DENTAL HYGIENISTS ASSOCIATION will be held in conjunction with the American Dental Association in Philadelphia, Pa., August 23-28, 1926.

Dental Hygienists make your plans now to attend this meeting.

LEONA M. MITCHELL, *Secretary*,
State Department of Health,
Harrisburg, Pa.

THE FIRST INTERNATIONAL ORTHODONTIC CONGRESS will be held at New York City, August 16-20, 1926. The Program Committee has already made great headway in regard to essayists and in securing suitable clinics.

At a meeting of the Board of Governors held October 28, 1925, the following were elected Honorary Presidents and Honorary Vice-Presidents:

HONORARY PRESIDENTS

Edw. H. Angle, Pasadena, Cal.	G. Lind, Amsterdam, Holland.
Corrado D'Alise, Napoli, Italy.	Benj. E. Lischer, St. Louis, Mo.
George C. Ainsworth, Boston, Mass.	Lloyd S. Lourie, Chicago, Ill.
William J. Brady, Kansas City, Mo.	James D. McCoy, Los Angeles, Cal.
J. H. Babcock, London, England.	John V. Mershon, Philadelphia, Pa.
Christian Bruhn, Düsseldorf, Germany.	George Northcroft, London, England.
G. G. Campion, Manchester, England.	Alberic Pont, Lyon, France.
Leon Frey, Paris, France.	Herbert A. Pullen, Buffalo, N. Y.
Milo Hellman, New York, N. Y.	James Thompson Quintero, Lyons, France.
Clinton C. Howard, Atlanta, Ga.	Oswald Rubbrecht, Ghent, Belgium.
Guy G. Hume, Toronto, Canada.	Hermann Schröder, Berlin, Germany.
Victor Hugo Jackson, New York, N. Y.	Georges L. Villain, Paris, France.
A. LeRoy Johnson, Philadelphia, Pa.	Milton T. Watson, Detroit, Mich.
A. H. Ketcham, Denver, Colo.	J. Lowe Young, New York, N. Y.
Henry A. Baker, Boston, Mass.	
Alfred Korbitz, Partenkirchen, Bavaria.	

HONORARY VICE-PRESIDENTS

Burt Abell, Toledo, Ohio, (A.S.O.)
Oscar E. Busby, Dallas, Texas, (Sw. S.O.)
George F. Burke, Detroit, Mich., (A.S.D.S.O.)
Albert W. Crowby, New Haven, Conn., (E.A.G.A.S.O.)
Henry C. Ferris, New York, N. Y., (N.Y.S.O.)
Sheldon Friel, Dublin, Ireland, (B.S.S.O.)
Henry Hoffman, Denver, Colo., (R.M.S.O.)
A. L. Hipwell, Paris, France, (E.O.S.)
Harry E. Kelsey, Baltimore, Md., (S.S.O.)
Wilhelm Plaff, Leipzig, Germany, (D.G.Z.O.)
Hugh G. Tanzey, Kansas City, Mo., (A.S.I.S.O.)
Georges L. Villain, Paris, France, (S.F.O.D.F.)